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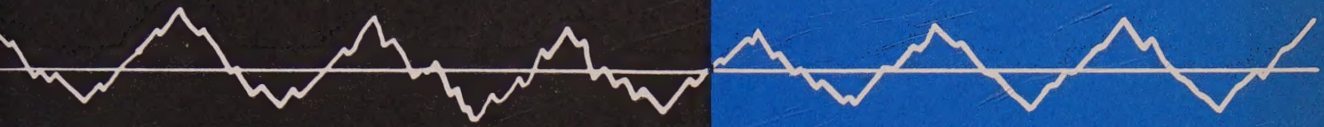

What's Ahead?
The Cycle Outlook for Auto Sales . . 249

OCTOBER 1961

cycles

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VOLUME XII, NUMBER 1

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Cycles are only *one* of the forces you must consider if you are attempting economic forecasting.

If you ignore the cycles you run the risk of serious errors.

But unless you study and weigh all the *other* forces that, in addition to cycles, combine to create economic change, you will make grave mistakes.

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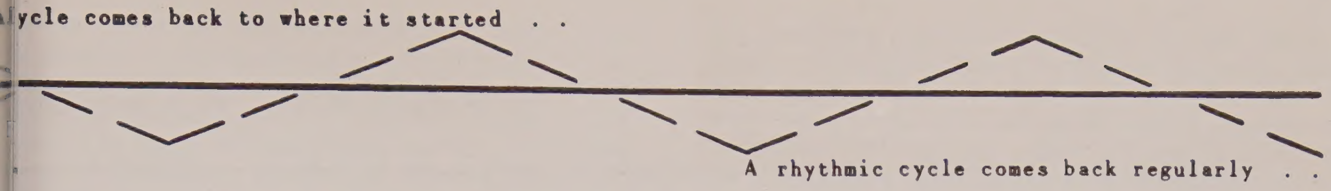

ycle comes back to where it started . .
A rhythmic cycle comes back regularly . .

HE DIRECTOR'S LETTER

ear Member:

Why is the United States great?

There are many reasons. Among them one ight name a climate that invigorates and timulates its people, fertile soil, pure ater, abundant minerals. In addition, within ır boundaries, we have a huge marketing area argely free of interstate tariff restricions, that permits the division and specialzation of labor. It is of this last named sset that I wish to speak.

I doubt if the virtues of the division of abor are fully appreciated. If they were we ould do many things differently.

It was Adam Smith, the "father of ecoomics," who in 1776 in his *Wealth of Nations*, ost forcibly drew the attention of the world o the great advantages that stem from dividng a job so that each person does one speialized part of it. Listen:

"The greatest improvement in the productive owers of labour, and the greater part of the kill, dexterity, and judgment with which it s anywhere directed, or applied, seem to ave been the effects of the division of laour.

"The effects of the division of labour, in he general business of society, will be more asily understood, by considering in what anner it operates in some particular manuactures. . .

"To take an example, therefore, from a very rifling manufacture; but one in which the ivision of labour has been very often taken otice of, the trade of the pin-maker; a workman not educated to this business (which the division of labour has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labour has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire, another straights it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on, is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all preformed by distinct hands, though in others, the same man will sometimes perform two or three of them. I have seen a small manufactory of this kind where ten men only employed, and where some of them consequently performed two or three distinct operations. But though they were very poor, and therefore but indifferently accommodated with the necessary machinery, they could, when they exerted themselves, make among them about twelve pounds of pins in a day. There are in a pound upwards of four thousand pins of a middling size. Those ten persons, therefore, could make among them upwards of forty-eight thousand pins in a day. Each person, therefore, making a tenth part of forty-eight thousand pins, might be considered as making four thousand eight hundred pins in a day. But if they had all wrought separately and independently, and without any of them having been educated to this peculiar business, they certainly could not each of them have made twenty, perhaps not one pin in a day; that is, certainly, not the two hundred and fortieth, perhaps not the four thousand eight hundredth part of what they are at present capable of performing, in consequence of a proper division and combination of their different operations.*

"In every other art and manufacture, the effects of the division of labour are similar to what they are in this very trifling one...

"As it is the power of exchanging that gives occasion to the division of labour, so the extent of this division must always be limited by the extent of that power, or, in other words, by the extent of the market. When the market is very small, no person can have any encouragement to dedicate himself entirely to one employment, for want of the power to exchange all that surplus part of the produce of his own labour, which is over and above his own consumption, for such parts of the produce of other men's labour as he has occasion for.

"There are some sorts of industry, even of the lowest kind, which can be carried on no where but in a great town. A porter, for example, can find employment and subsistence in no other place. A village is by much too narrow a sphere for him; even an ordinary market town is scarce large enough to afford him constant occupation. In the lone houses and very small villages which are scattered about in so desert a country as the Highlands of Scotland, every farmer must be butcher, baker, and brewer for his own family. In such situations we can scarce expect to find even a smith, a carpenter, or a mason, within less than twenty miles of another of the same trade. The scattered families that live at eight or ten miles distance from the nearest of them, must learn to perform themselves a great number of little pieces of work, for which, in more populous countries, they would call in the assistance of those workmen. Country workmen are almost everywhere obliged to apply themselves to all the different branches of industry that have so much affinity to one another as to be employed about the same sort of materials. A country carpenter deals in every sort of work that is made of wood: a country smith in every sort of work that is made of iron. The former is not only a carpenter, but a joiner, a cabinet maker, and even a carver in wood, as well as a wheelwright, a ploughwright, a cart and wagon maker. The employments of the latter are still more various. It is impossible there should be such a trade as even that of a nailer in the remote and inland parts of the Highlands of Scotland. Such a workman at the rate of a thousand nails a day, and three hundred working days in the year, will make three hundred thousand nails in the year. But in such a situation it would be impossible to dispose of one thousand, that is, of one day's work, in the year."

Several corollaries stem from the fact that great advantages stem from the division of labor.

(1) Those subterfuges whereby some of our states, by means of tax schemes or otherwise, erect tariff barriers against goods made in other states are economically reprehensible; they are not in the public interest.

(2) All taxes against railroads and truckers that increase the cost of transporting goods narrow the markets of producers and thus reduce the advantages of the division of labor. They should be abolished except insofar as they are needed to pay the fair share of the cost of roadway.

(3) The advantages that come to us from division of labor can be increased by increasing the common market, *i.e.*, by the elimination of tariff barriers. In the long run such action would inure to the benefit of ourselves and any country or countries that might go along with us on such a plan.

(4) Great economic advantage lies with large countries, such as China, Russia, and ourselves.

The advantages of the division of labor do not accrue to small countries to the same degree. They could be achieved however by the elimination of tariff barriers between these small countries, and by improved transportation.

What are the chances of eliminating tariffs between states, abolishing taxes against railroads etc., and lowering tariff barriers? Very slim. Our legislation is too dictated by minority pressure groups. Very little attention is given to the general welfare.

Your cynical friend,

Edward R. Dewey

Director

---

*Upon inquiry I find that today, in the United States, what with improved methods and the use of machinery, which is merely another form of the division of labor, one man can produce 8 million pins a day!

WHAT'S AHEAD?

THE CYCLE OUTLOOK FOR AUTO SALES

by Gertrude Shirk

The chart below shows, by means of a broken ne, the combination of three cycles and an derlying short term trend in the total fac- ry sales of passenger cars. *Except for the ar end seasonal peaks, these combined cycles not exert enough upward pressure during the xt twelve months to push factory sales above e levels of the last twelve months.*

The broken line shows *only* a particular cle combination (and an assumed trend). ese cycles are 6 1/3 years long, 23 2/3 nths long, and 12 months long. Other cycles t included, non-cyclic economic factors, and ndom events will also, of course, materially ffect the actual course of passenger car ctory sales. Other factors, particularly n-cyclic economic factors, lie outside the ope of this study and have to be considered parately.

The particular cycle selection used here es not include all the known cycles in fac- ry sales. It is based on a careful selection of the waves which have been functioning best since World War II. In so far as these three cycles continue to be effective, they can be expected to exert some influence on factory sales. If all three cycles were 100% effective, they would have the following influence on sales.

	% of Trend (Whatever Trend Is)
1961-Jul	126
Aug	101
Sep	65
Oct	84
Nov	119
Dec	135
1962-Jan	124
Feb	113
Mar	121
Apr	118
May	115
Jun	111

These figures are percentages of trend;

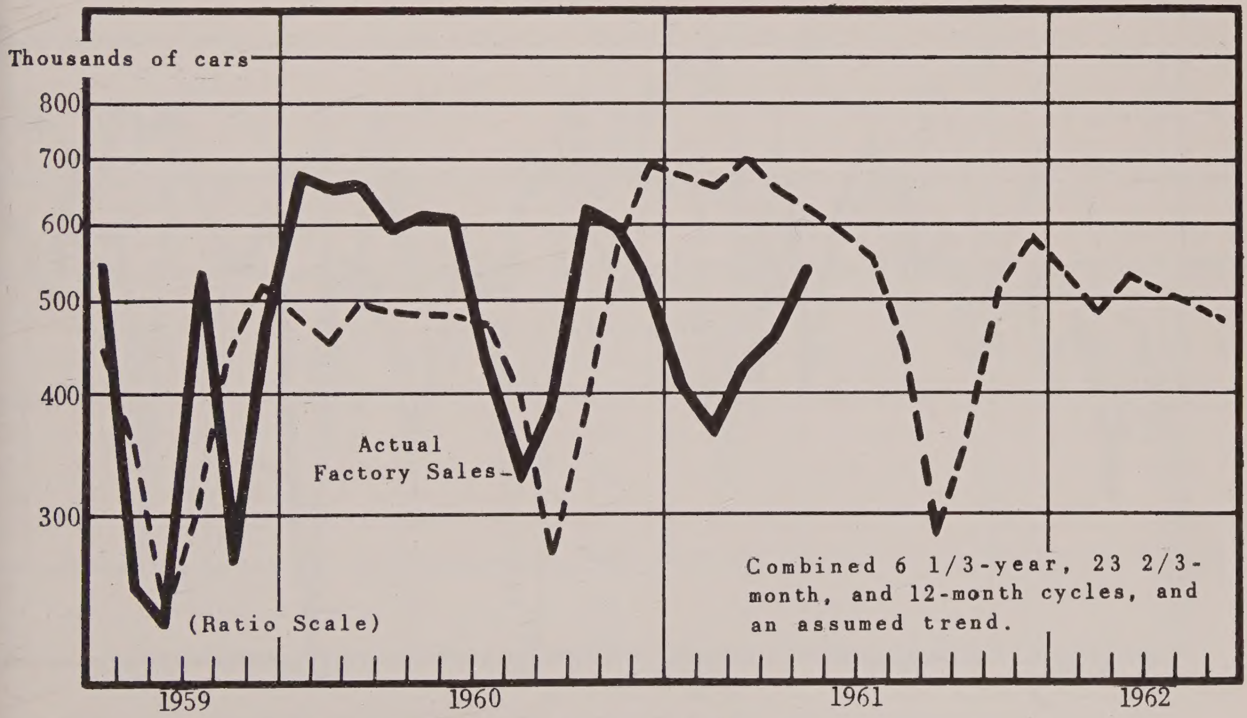


FIG. 1: PASSENGER CAR FACTORY SALES

when applied to an assumed trend level for the number of cars, the result is the numbers of cars plotted on Figure 1. Of course, the degree of effectiviness of the individual cycles, and, in turn, the combined cycles, varies from time to time. The percentages are applied to an underlying trend which appears to be slightly downhill at the present time. The trend level used for July 1961 is 438,000 cars a month. It goes down to 429,000 cars a month by June 1962. This downhill trend may appear to be pessimistic, but the figures for sales, after the three waves used are *removed* from them, have been in a slow decline over the past 5 years or so. In any event, changing the trend level upward would not change the *contour* of the broken line on Figure 1; it would however raise the broken line to higher levels.

To summarize, three of the possible cycles (6 1/3-years, 23 2/3-months, and 12-months) in passenger car factory sales are combined. The combination, in terms of percentages of trend, are added to the underlying trend discussed above. The result for the months beginning July 1959 is shown by the broken line on Figure 1. The result is also carried forward to the middle of 1962. But you can see that the extension into the future depends on four separate factors, three cycles and a trend. Any one of these parts could go sour. Th
reliability of the broken line would then b
correspondingly reduced.

Figure 1 concentrates on the immediate past and near future. Figure 2 shows exactly th
same comparison as Figure 1, but for the entire period beginning with 1948. The extent t

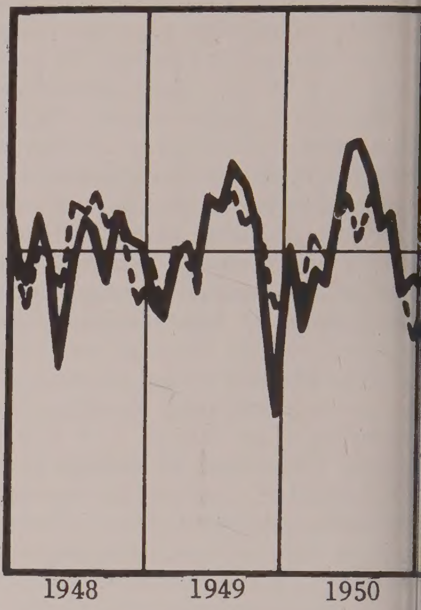


FIG. 3: THE 12-MONTH C

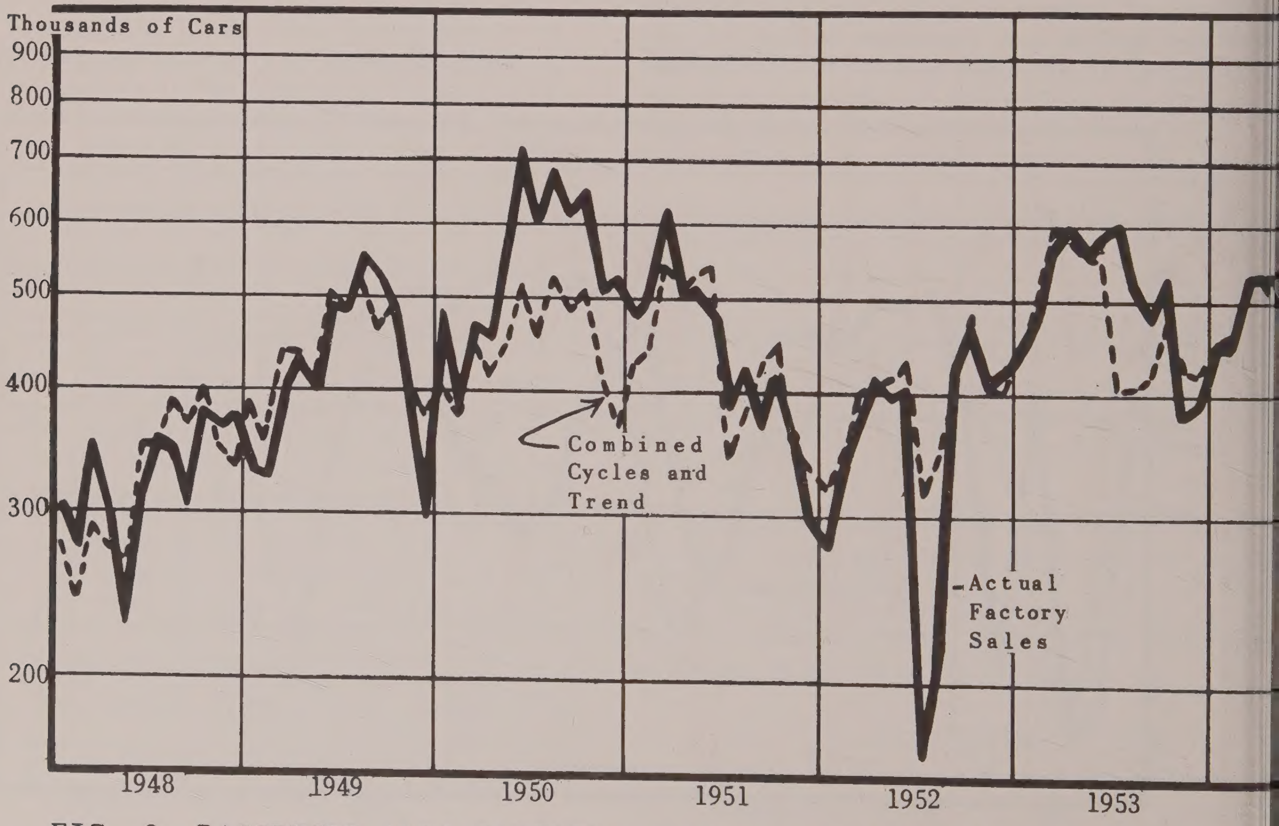
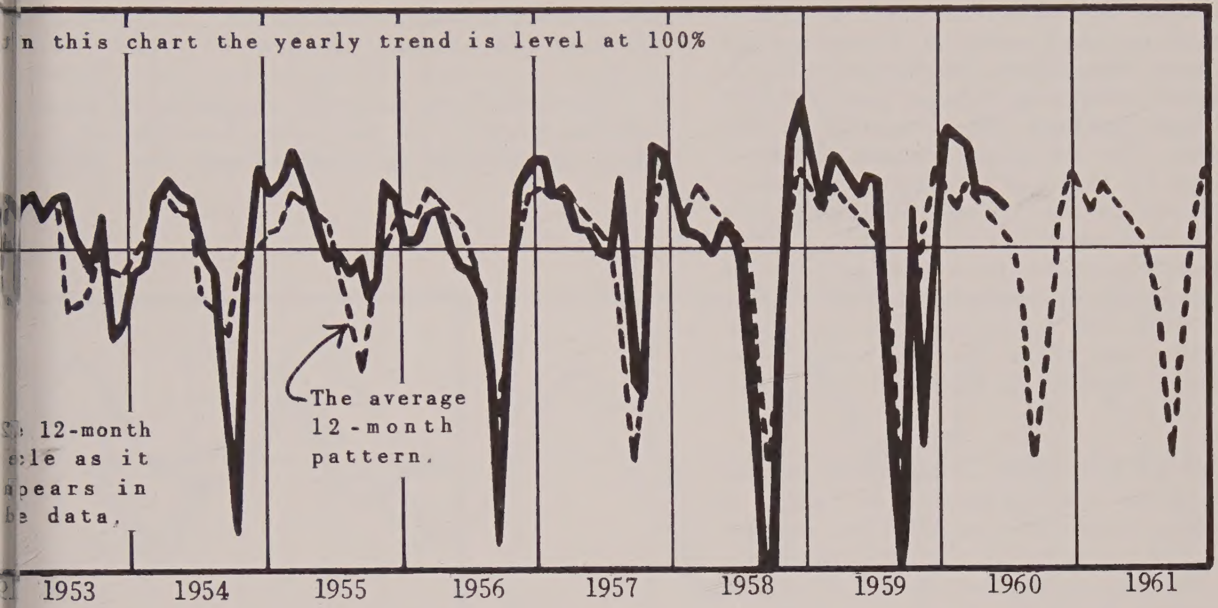


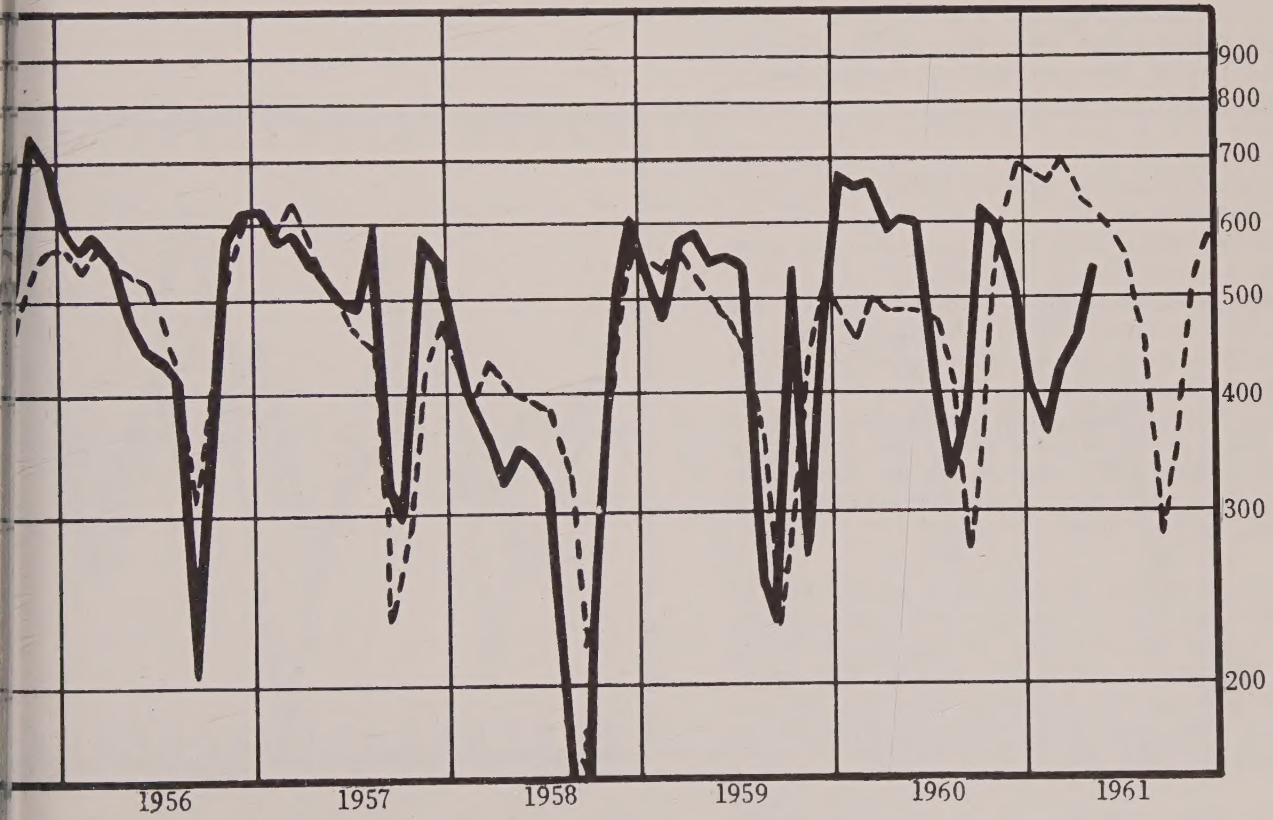
FIG. 2: PASSENGER CARS FACTORY SALES — A COMPARISON OF ACTUAL FA

ich the particular combination of cycles ed has been effective in explaining the riations in factory sales since 1948 can be dged by an examination of Figure 2 below. If e cycles used are real and continue to oper- e, the combination should be as effective er the immediate future as it has been since 48. However, these three cycles are not the only ones present in this series. Moreover, factors other than the cycles must also be taken into account when making a forecast. The cycles are only part of the whole picture.

The three cycles that were used were selected because of their reliability since 1948. Of course, the 12 month variation in



ER CAR FACTORY SALES



COMBINED CYCLES AND TREND

auto production is well known, and the 12-month cycle is perhaps the most dependable of the lot. Even this fairly simple, and seasonally regular behavior presents problems. During the years 1948 through 1956 the seasonal pattern changed. The seasonal lows came in the months of November, December, January, and February in the years 1948, 1949, and 1950. Then they began coming earlier in the year. By 1957 the lows had more or less settled down to August, September, and October. Since 1957 the actual lows have more or less followed this changed pattern. See Figure 3 on the previous page. The solid line shows the seasonal pattern in the month-to-month figures. The broken line is the "ideal" 12-month pattern used in the combination of cycles. This ideal 12-month pattern is a changing cycle based on the changing actual behavior of the data. Since 1957 the actual pattern has been fairly regular, and there does not seem to be any reason for further changes in the ideal cycle.

The ideal 23 2/3-month cycle used in the cycle combination is illustrated on Figure 4 by the broken line. The solid line on the chart shows the cycle as it can be demonstrated in the figures on factory sales. Although the chart begins with 1948, the actual work on the cycle was done with figures beginning in January 1913. Although the cycle is present over the entire period, 1913 to date, it appears to be more regular and dominant since the second World War. The ideal 23 2/3-months cycle is now on the way down to a low due at February 1962.

The 6 1/3-year cycle which was also used in the combination of cycles is shown on Figure 5. Because yearly figures were used for the work on this cycle it is possible to show a longer record. The 6 1/3-year cycle is very important in automobile production. It was present before World War II. After the war, it recurred almost on schedule, the peak in 1950 being just 18 months later than ideal timing. The 1955 ideal and actual peaks occurred at almost precisely the same time. The cycle has an ideal low in 1958, and it has an ideal high in 1961. The next low, based on average past behavior, is in 1964.

It is possible to see this cycle in the original figures. If you go back and examine Figure 2 you can see the strength centering on the 1950 area, and again on the 1955 area. Also you can see the recovery from the low-low of 1958. (The year 1958 was the time of an ideal low on this cycle.)

If you were attempting to forecast automobile production, and making a list of th factors to consider, you should certainly include the 6 1/3-year cycle. Its performanc since World War II could hardly have been better. Also, it is a strong cycle, having a average strength of 23% above trend at tim of crest. Of course, the 12-month cycle woul also be on the list, although this cycle mus be watched closely to catch any further changes from the present pattern.

The 23 2/3-month cycle should be on such a list—it cannot be denied that a knowledge o this cycle would have helped over the past 1

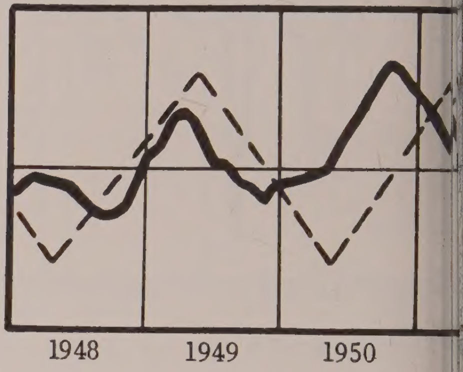


FIG. 4: THE 23 2/3-MONT

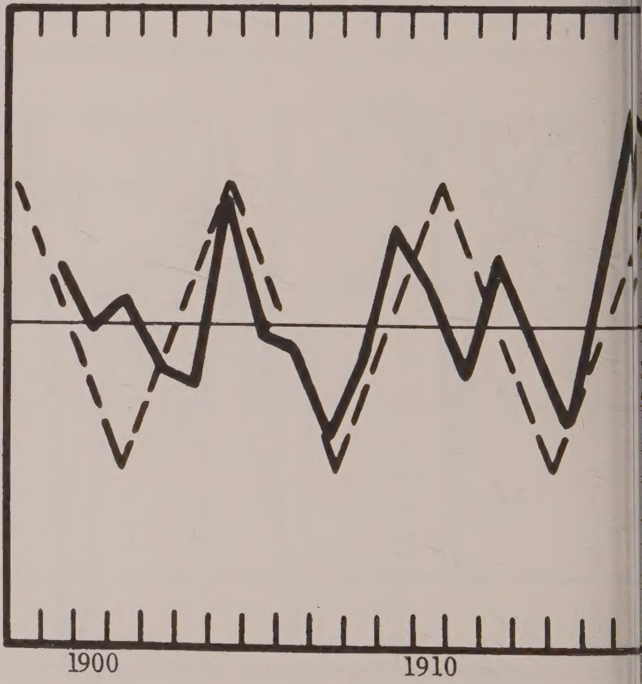
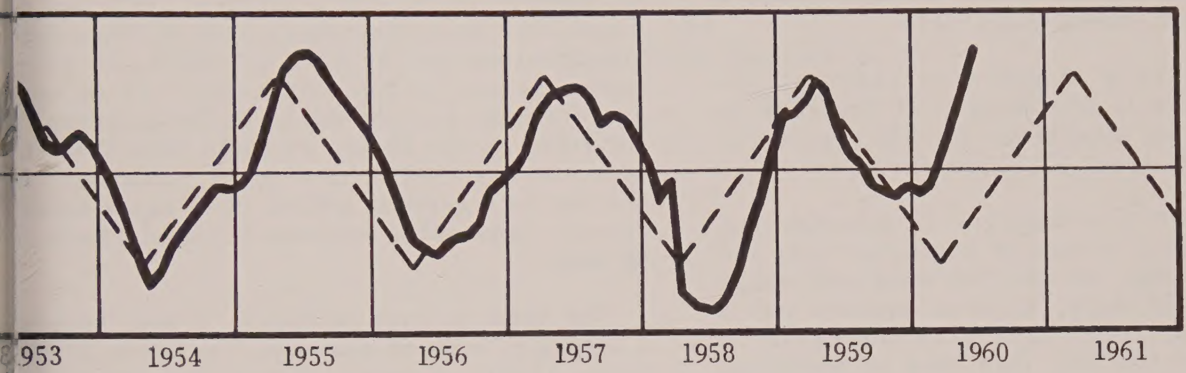


FIG. 5: THE 6 1/3-YEAR CYCLE IN

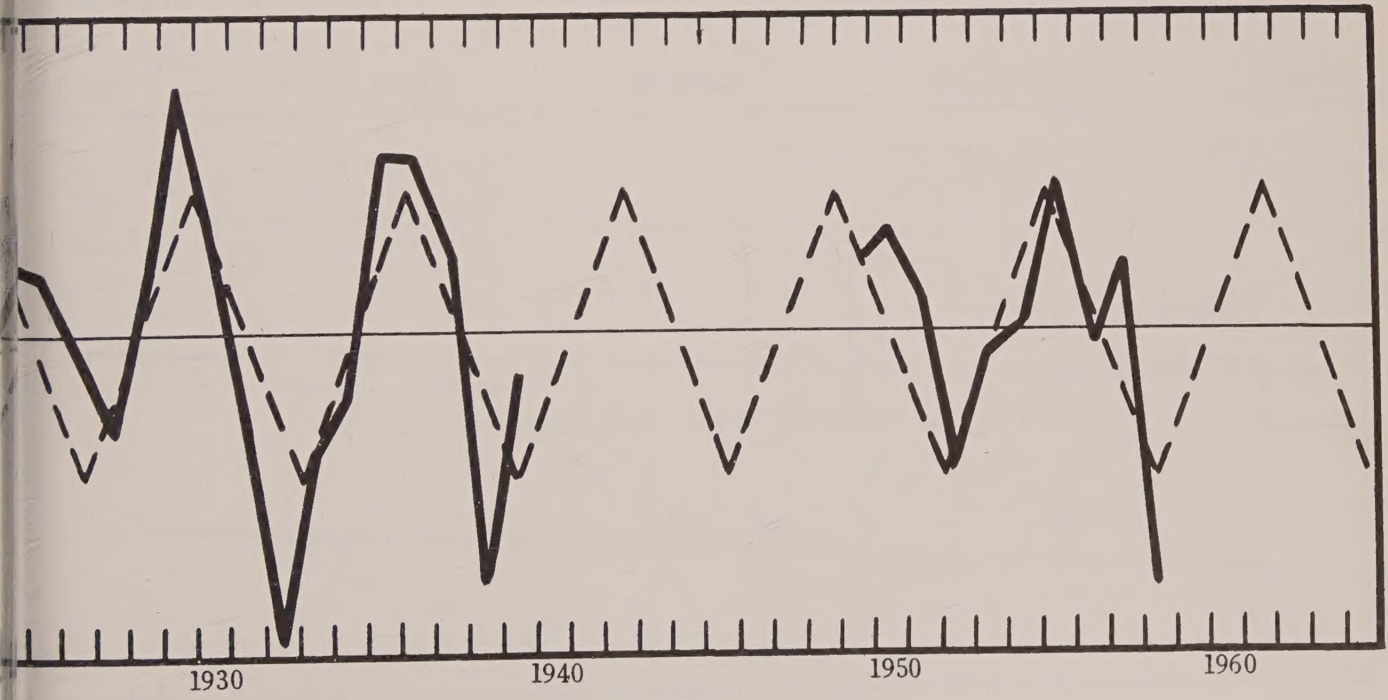
years. (We first reported it in *Cycles*, December, 1954.) The ideal 23 2/3-month cycle has an average strength of 14.5% above trend at the time of crest.

Frankly, I used this particular group of cycles because together they give the best match with actual experience since World War II. There are other cycles present which are important to cycle knowledge, but which at the present time are of little practical usefulness. For example, the 40.9-month cycle which was so prominent prior to the war is, at the moment, not good enough to include. If later variations in the figures on factory sales indicate that the 40.9-month cycle is again becoming prominent, we will then include it in the combination.

In addition to the three cycles which were combined with trend to obtain the broken line on Figures 1 and 2, non-cyclic economic factors and random events will materially affect passenger car factory sales. The evaluation of the possible effect of the other factors is another job. What you have here is a summary of the *cycle* factors which should be taken into account.



ENGER CAR FACTORY SALES



RY SALES

SATELLITES SHOW

28-DAY CYCLE IN AIR DENSITY

by Leonard W. Win

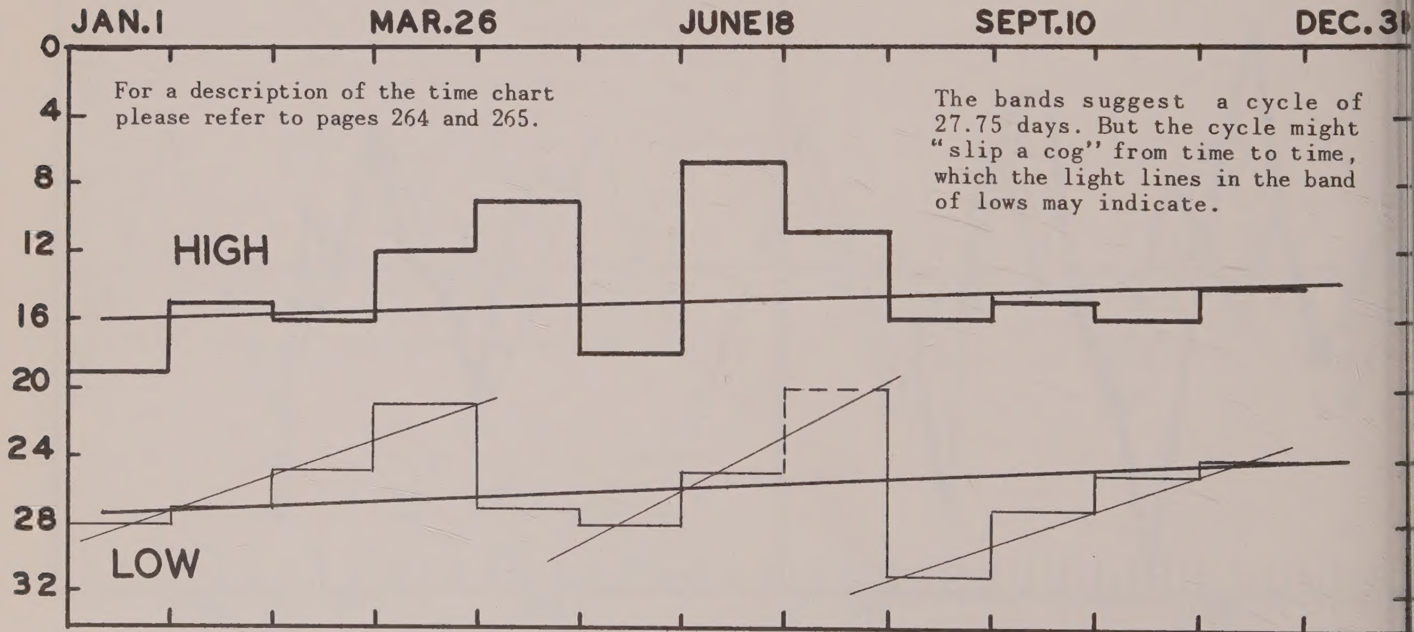
As a satellite whirls about the Earth, the minute quantity of air encountered at very high altitudes slows it up and thereby shrinks its orbit. Watching the satellite and recording its passage gives a measure of the shrinkage and indirectly of the air density encountered. The variation in air density shows a cycle of about twenty-eight days.

Figure 1 is a 28-day time chart of the highs and lows in air density as revealed by observations of satellites in 1958. The cycle appears to be about 27.75 days.

What causes this behavior is unknown. One explanation is a stream of particles from one spot on the Sun. As the Sun rotates, which takes 27 or 28 days, an area squirts out a stream of particles that hits the Earth at every turn of the Sun. This idea is something like a rotating lawn sprinkler that soaks every twenty-eighth passerby on the sidewalk. At every revolution of the Sun, the stream of particles "soaks" the Earth.

It would seem possible to test this postulate in some long geophysical time series such as of barometric pressure or terrestria magnetism. If areas on the Sun are involved sooner or later the cycle should "slip a cog as one area gives out and a new one start squirting. Thus, a new area six days behind as measured by the Sun's rotation, will set u a new band on a time chart that differs fro the previous one by this six days. In othe words, it has "slipped its cogs." If no cog are slipped, for the cycle to be a matter o squirting at the Earth, it would seem that th area involved would have to be permanent. A the Sun is a gaseous sphere, this seems hardl likely. Some other explanation would have t be made.

The band of lows in Figure 1 does sugges a possible "slip of the cogs," as shown by th three light, diagonal lines. But many tim series plotted on a time chart show variation also because of the many variables influencin them. As no attempt has been made to minimiz other influences in the 28-day time chart these may not at all indicate "slips of th cogs."



For a description of the time chart please refer to pages 264 and 265.

The bands suggest a cycle of 27.75 days. But the cycle might "slip a cog" from time to time, which the light lines in the band of lows may indicate.

FIGURE 1. TIME CHART OF AIR DENSITY SHOWN BY 1958 SATELLITES

CYCLES IN HISTORY

Reprinted from

Today and Destiny

by
Edwin Franden Dakin

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Foundation for the Study of Cycles

Reprint No. 7

Preface

The search for trends and cycles in human history requires learning of an extraordinary kind. Not many men possess either the temperament required for the task, or education of the necessary scope and range. Yet the search is important, and is of particular interest for our own era. This interest is attested by the great readership recently accorded Toynbee's *Study of History.*

Britain's Toynbee finds an unmistakable rhythm, or "beat" in history, which characterizes the life of all civilizations. For him, this rhythm is not a cycle that returns to the point of origin, but an up-and-down beat on a rising trend line of progress.

Less known is the work of the American Brooks Adams, who posed, in *The Law of Civilization and Decay,* a theory of historical cycles where regular oscillation occurs between barbarism and civilization. Dr. Charles A. Beard stated that this work of Adams greatly influenced the thinking of Theodore Roosevelt on the subject of America's future, and so has helped to shape history.

In the same field of historical inquiry, W. M. Flinders Petrie (*The Revolutions of Civilization*) has made contributions of world-wide note.

Among all the studies of the problem, *The Decline of the West* by Oswald Spengler is one of the most provocative, and one of the most difficult to read. E. F. Dakin has brought the essentials of the Spengler thesis into readable compass in an arresting book called "*Today and Destiny.*" Through the courtesy of the publishers, Alfred A. Knopf, Inc., we have been permitted to issue as a Foundation reprint Mr. Dakin's introduction to this study, which includes a tabular outline showing parallels between developments in our own history and the life of other cultures.

If Spengler is correct in his thesis that history does, in effect, repeat itself in various cultures, then we have in this sequence a useful tool for telling what time o'clock it may be, in the particular span of history into which we happen to be born.

Between Toynbee and Spengler there is one remarkable correspondence in conclusions, despite major differences: both agree we now stand in a crucial historical period. For Toynbee it is a "Time of Troubles"; for Spengler it is the "Period of Contending States." By the calculations of both men, this period is ultimately due to pass into an era of "universal" peace, if past historical precedents prevail.

Unlike Toynbee, who hopes (despite historical precedent) that the universal state of our own civilization can be prayerfully established without the deliverance of a "knock-out blow," Spengler predicted the continuance of ever-more dreadful war, until one surviving state emerges as supreme victor, and imposes an ordered peace on the world. Toynbee sees an opportunity for hopeful appeal to God's mercy; Spengler sees inevitable destiny at work. This attitudinal difference in reading the data is strangely symbolic of differences that prevail in American public opinion today.

The following material was first issued as a Foundation reprint in 1944; it is being reissued because it is *still* apposite in a time when there now remain—out of all the Contending States of this century—only two great Powers still able to vie with each other for precedence in organizing the world.

Edward R. Dewey

INTRODUCTION

by
Edwin Franden Dakin

It may be regarded as a matter of funda-ental patriotism, in this era, to try to put pengler in the reading range of those respon-ible for Anerican policy. Which is to say, of he many.

For Spengler, contrary to some of the ideas f those who have not read him, tends to be a omplete realist in his views of the world and ts political events. A people like our own, iving in perennial conflict between what it ants to believe and what it has to do—as hurman Arnold would put it—will perhaps need ome realistic ballast rather desperately, as t sails through the tempestuous seas indi-ated for the next few years.

It is probably not to be expected that most eaders will approach Spengler in agreement ith his judgments on the weaknesses of "de-ocracy" and the theories of the "intellec-uals." It can only be said that, since to-ay's events seem combined largely to confirm pengler, his views are hardly to be ignored; —at least, by those citizens determined to eep the United States impregnable at whatever ost is necessary, including the cost of re-ising any ideas that stand in the way.

Spengler, whatever his forebodings may have seemed in the past, was standing as an Ezekiel efore us:

> A sword, a sword is sharpened. . .
> Should we then make mirth?
> This sword is sharpened, and it is furbished. . .
> Thou, therefore, son of man,
> Prophesy. And smite thine hands together,
> And let the sword be doubled the third time.

It may well be that national defence, which is one of the oldest problems in history, is to be the only real problem in the years just ahead. Spengler thought so. For him domestic policy has no meaning except as it gives a nation strength to deal with the world around. He cannot reiterate it too often: "A nation does not live alone in the world." It is a message that, heeded in time, might already have saved many beautiful things.

Many signs say that we may at last be ready to begin understanding the Spengler message. Spengler himself predicted as much: "We must look. . .to the new generation to do it."

Spengler was writing in an age when belief in the destined progress of "democracy," and faith in the omnipotence of each man's free will, still burned with religious fervour half around the globe. The man who dared to assert that both were already tottering to a fall seemed slightly mad and even anti-social.

But time seems to be giving Spengler the status of a prophet—perhaps the greatest of our age and culture. His prophecies have been coming true according to advance schedule. There is only one test for a prophet—and this is it. It is also one test for a scientist.

All science has one ultimate business—to predict. Its object is to recognize, in its field of inquiry, an ordering and a relationship between phenomena which will finally enable it to say, 1+2=3. That is, if you add 1 to 2 you will always get 3. Or, if not always, at least under stipulated conditions. These conditions it is the business of science to investigate and catalogue.

Now science began its inquiries with phenomena the very farthest from man—the stars; and it has only slowly worked its way down toward the subject of man's major interest, which is himself. And not always successfully. Psychology and sociology seem far from being true sciences even yet. When an obscure German school teacher suddenly appeared, and claimed to have evolved a science of history that permitted prediction in human affairs—this to many seemed almost monstrous, twenty odd years ago. At least, it was monstrous in the eyes of many another scientist who, whatever his fame, fortune, and degree, had never succeeded in making accurate predictions except in reference to atoms, stars, equations, and chemical formula.

It seemed the more intolerable because Spengler, in formulating what he called a Morphology of History, found it necessary to throw overboard some of the dearest prejudices of the science of his time. Thus he dispensed with Causality. He labelled it merely an intellectual view of the world. In those days Causality was still the *deus ex machina* in many a laboratory. Spengler talked in an unfamiliar language.

Since then, our Science has itself adopted some new ways of speech. Causality had indeed been recognized as a king of illusion. Physics, in making its predictions, has come to realize that it often relies on laws of averages not vastly different from those used by life insurance companies to forecast next year's deaths. Mathematics had long worked in frames of reference where practically all causes lie in the observer—where practically anything can be true, if he can first imagine it. Even biology finally found itself drawing the very population charts which Spengler predicted would be drawn—and without being able to put a finger decisively on any causality in them.

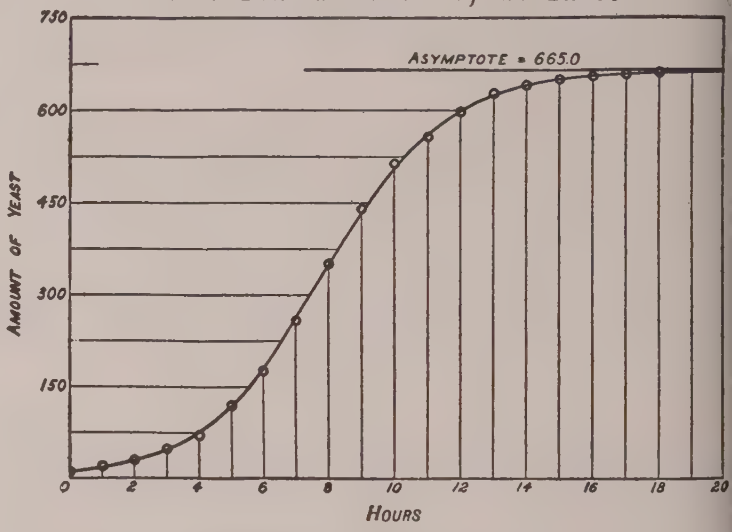
A most remarkable book was published by Raymond Pearl in 1925 under the title, *The Biology of Population Growth*. Dr. Pearl, of Johns Hopkins, had discovered that there was a law of growth, which proceeded according to a peculiar curve. In charting the growth in weight of a white rat, for instance, one would find a slow rise in the beginning, then a rapid rise, then a gradual levelling out. The curve would have, roughly, the shape of a slanted S which was distorted be stretching out both ends.

Interestingly enough, a pumpkin's charted growth would show the same approximate curve. More interesting still, the growth of a population of yeast cells would also proceed according to this curve.

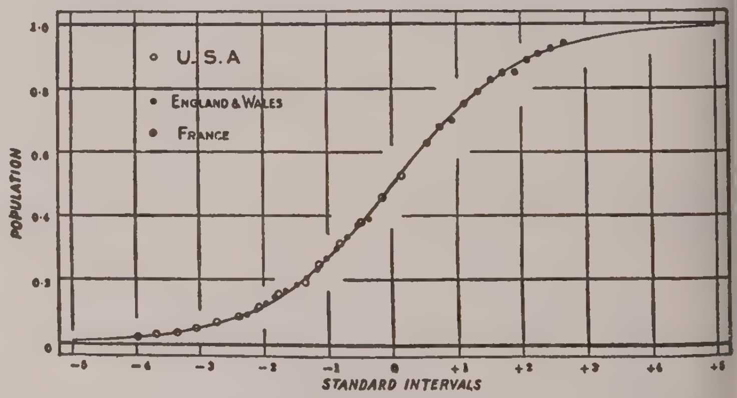
But most extraordinary of all, the growth of a human nation was found to follow the same sort of curve as that of a population of yeast cells.

Now it is somehow reasonable, and at least not difficult, to accept the idea that a culture of yeast cells would expand according to a definite law. Such a culture, in a controlled environment, and undisturbed by any force—unless perhaps someone accidentally knocked it over, and spilled it on the laboratory floor—would naturally expand rapidly while ample room still existed to grow in. It would naturally cease expanding when it had exhausted the resources of its environment. It would naturally start on a decline when the impetus

The General Pattern of the Curve



The growth of a population of yeast cells. Data from Carlson, represented by small circles. Smooth curve from Pearl's Equation IV.



The growth of three Western peoples. The population of the United States (1790–1920), of England and Wales (1801–1921), and of France, including Alsace-Lorraine (1801–1911), fitted to the same logistic drawn to the standard time scale. (From Yule.)

CHARTS FROM *The Biology of Population Growth* BY RAYMOND PEARL.

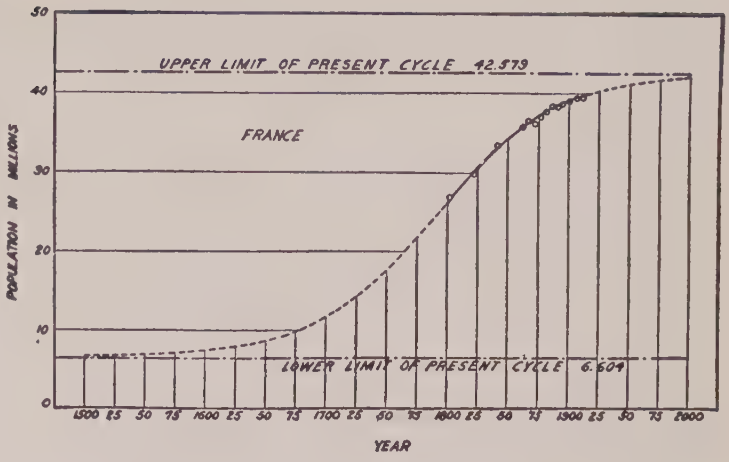
expansion had finally been exhausted.

But what about a nation? A nation ights wars, goes through plagues, exeriences birth control movements. It as drouths and rains; periods of scarity and plenty; and all its citizens e supposed to be exercising their free ills all of the time, including freedom o produce children or not.

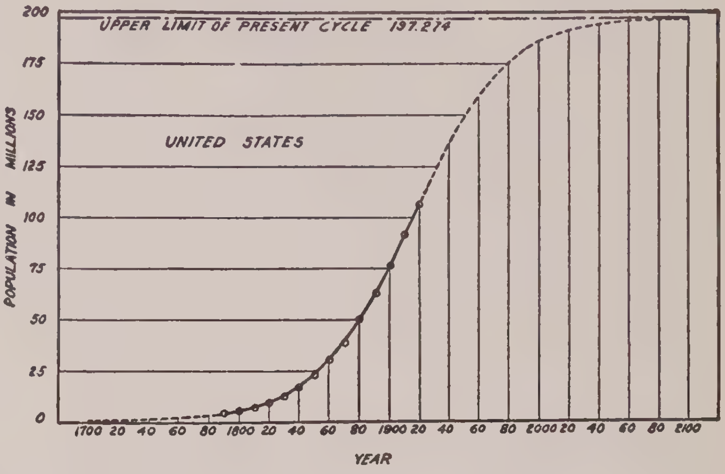
Yet the various nations of the world, o far as we possess population records, an be shown generally to follow the urve of growth that in essence governs he growth of a pumpkin or a culture of east cells. Furthermore, if you estabish, by survey, a few points on such a urve, you can reconstruct past segments or which records are missing. *And you lso can predict, with fair accuracy, he curve's future course.*

Dr. Pearl, as a respected scientist, evoted much of his book to a quest for he causal factors operating behind this aw of growth. He noted that nations ddicted to venery, like the Arabs, and ations addicted to disease, like some thers, and nations addicted to a high evel of intelligence and conduct, like he Swedes, all pursued the same curve n their national life. The incidence of ars, famines, "morals," and other pheomena—(Dr. Pearl even compiled tables f the incidence of sexual activity in a group of men)—all seemed to have no indubitable causal connection in the outcome. Like Brother Juniper, he ended profoundly convinced that it was hardly an accident, but Design. Yet the ultimate secret of that design seemed to baffle him. It has baffled others.

Estimating Past and Future Points



The population growth of France, shown in the heavy part of the curve for which census data are available.



The population growth of the United States, which as an individual nation is shown by the curve to be in a much earlier period of growth than France.

CHARTS FROM *The Biology of Population Growth* BY RAYMOND PEARL.

Without in any way committing Dr. Pearl to the Spenglerian thesis, four of the charts illustrating the growth of individual organisms and peoples are reproduced here, with his permission, from *The Biology of Population Growth*. Exactly the same sort of graph is used today, by corporations and governments, to predict future population expansion, and resulting industrial needs, for modern cities, states, and nations. One such study, based on these principles, is the outstanding *Regional Survey of New York and its Environs*, which was originally published in 1929.

It was this same design, this same sort of curve, that Spengler thought he saw in the life of every Culture. The early part of the curve, when it was in its early rise, Spengler called the Springtime. Then came the full waxing, which Spengler variously called the Summer and Autumn periods, and the Early and Late Periods of Culture. Then, finally, came the last period, when the accomplishments of the Culture were frozen in rigidity; and this period Spengler called the Winter, or the time of "Civilization."

The curve for all Cultures seemed the same. *Furthermore, similar events seemed to occur in each Culture, at exactly corresponding points on the curve.* Thus, in the field of science and the arts, Spengler found that architecture reached the peak of its development always at the same point; so did mathematics; so did painting and music; so did the physical sciences. Again, in the field of politics and statecraft, similar developments seemed likewise to show up at identical points. Thus town building appeared always to expand into city building at the same period in every Culture. Similarly, Feudal rule of the elite passed into democracy, then into mobocracy, then into Caesarism, at the same points on all the cultural graphs that Spengler compiled.

Most important, when several points had already been established, Spengler believed that the remaining part of the curve could be predicted, and so events still to come could be approximately timed. In the population charts of Dr. Pearl, the future course can be constructed with mathematical accuracy when the early points are known—just because this curve is the expression of a "mathematical" law. In much the same way, Spengler was convinced that the future course of a Culture could be accurately drawn, when the early dates in its history had once been established.

A familiar parallel to the Spengler conception may be found in the life of an individual. If such a life is charted by drawing a line, we may indicate points along this line where we know—from observing numerous other individuals—that certain events should occur. At a given age teeth will appear, the individual starts to walk, speech begins, social consciousness dawns, puberty develops. That is, we can make predictions regarding the advent of both physical and psychological developments. While variations will occur, due to the particular temperament of the individual organism, a study of this temperament even permits predictions as to variation. Again, just as the individual of each species has an average life span, so, thought Spengler, does each Culture, which shows a period of approximately a thousand years between its "spring" or dawning, and its final freezing in the ultimate forms of its Civilization period.

Such is the Spengler theory of historical development, and the basis of the Spengler predictions regarding the present era of our particular Culture.

Before and after a Culture, mankind is "historyless," in Spengler's view That is, nothing of historical significance happens. But the moment a Culture is born, the curve of facts begins, and continues through.

How and why the Culture should be born is a mystery he asserts we cannot explain—just as we cannot explain causally any organism that has life. The intellectual view, which is also the causal view, cannot wholly comprehend factors which are part of a vaster Reality.

Here Spengler has the mystic's conviction, which insists that the ruling laws of life are written in higher dimensions than the three dimensional categories which alone the intellect can understand. Some contemporary philosophers like our own Josiah Royce of Harvard might readily have found a basis of agreement. But that mysticism was alone enough, in 1918, to put between Spengler and most conventional scientists a seemingly impassable barrier.

Here again, however, we have come far in a few years. Even as Spengler wrote, the physical sciences already were reaching beyond Causality, to find there a Universe that acted mysteriously like a mirror for man's own mind. This, of course, was what some philosophers had long been saying, and was exactly the way Spengler described Nature. Writers on physics like Eddington and Milliken, Whitehead and Jeans, bent their skill to making such a concept understandable in terms of the physical laboratory, for minds trained in less rarefied realms of scientific atmosphere. Meanwhile, also the remarkable *Tertium Organum* of P. D. Ouspensky had reached English publication, almost simultaneously with Spengler. Slowly finding its audience, it offered a logical approach to mysticism—a logical understanding of the illogical; and put the whole subject within the (at least) partial grasp even of the non-scientific reader.

Thus denial of Causality as the determining factor in Life ceased gradually to seem heresy. With this it became possible for those trained in the conventions to read Spengler without raised eyebrows. Nor should any unfamiliar with mysticism come to Spengler with the idea that his own mysticism, at least, means the vague ways of an impractical dreamer. Spengler uses it for very practical purposes, designed to reduce to spluttering apoplexy many who are self-esteemed as the really hard-boiled realists of our day.

A Culture, in Spengler's view, has a life of its own, quite as unique and real as the life of any individual member of that Culture. In much the same way, the human being has a life higher than that of the individual cells of which his body is composed. Similarly, Spengler regards each Culture as guided in its unfolding by a Soul. Maeterlinck, studying his bees, thought of the Spirit of the Hive as a force that flowed through and united the life of every individual member of the bee community. Quite similarly, to Spengler the Soul of the Culture is a unique reality, that imbues and colours the activity of every human life in the Culture-stream.

It is of course obvious that as many concepts of history are possible as there are people to entertain them. Perhaps the major claim made by Spengler in behalf of his own concept is the one that it permits of prediction. Now this claim, if verified, must prove vital. In what is called the scientific approach, the ability to predict accurately determines the ultimate value of the hypothesis. In the laboratory, many hypotheses must usually be examined before the workable one is found. The workable one is that which not only will include all known factors, but can be employed to predict outcomes. Thus the hypothesis we accept concerning the organization of the solar system is that which permits accurate forecasts concerning future events in that system; old hypotheses, which did not meet this test, have had to be discarded. This is a rigid test, common in the true sciences, and usually either avoided by such pseudo-sciences as economics, or else not met. That Spengler is willing to meet it, in his own field of thought, and indeed goes far to invite its application, must win him respectful attention, however far from prevailing concepts his views at times may seem.

It may be noted that this same test may properly be applied to measure the value of any philosophy of men and events. Any concept —economic, political, or cultural—which leaves its possessor wholly unprepared for tomorrow is of doubtful validity. Conversely, men who are not surprised when the future comes live very close to the truth. These are truisms worth restatement in our times.

The wintertime of a Culture—its old age—is for Spengler the stage which he calls Civilization. It is the time of great city developments. It is here that he sees Caesarism inevitably developing.

Writing his great thesis during the course of the first World War, Spengler felt quite certain that that war would be only the first of many to come. For his charts showed our life in the awful age of "Contending States," when the dictators would arise. He was equally certain that Democracy would shortly give way under the Caesars' march; the Caesars destroyed both Democracy and Money. This was, of course, before Fascism had ever been heard of in our time. Caesarism was the word which Spengler took from past history.

Here an explanation is warranted concerning the Spengler view as to the meaning of *"Decline."* The word as used in the English title is not a perfect translation.

Convinced that the eras of great creative work in the arts and sciences were finished for our Culture, Spengler did view the completion of Civilization as a period of decline from great creative heights. It would finally become a period when styles would be eternally reborn; but all of them would be without creative life. It would end as a period which might be extended in life indefinitely and for millennia—as that, say, of the old Chinese, or the Hindus, or the Egyptian Fellahs. But historically it would cease to be eventful.

Millions might live happily and joyfully after the Caesars had finally settled their battles, and the great age of complacent empire was at last established. But for Spengler, at least, all this would be as night after the glowing noonday of our Culture's magnificent creative work, in times when the imagination of its men soared to infinity, and conquered unknown dimensions not only of the earth, but of the Universe.

This view does involve a subjective judgment—firmly as Spengler strove to take a viewpoint outside of our own peculiar Culture history. Even he would admit that millions were extremely happy and satisfied in the "Winter" years of the great Roman peace that followed Augustus. Bathed in the frozen splendour of such cities as had never been seen before, they would not have traded their "declining" life for all the adventures, achievements, and spiritual experience of the earlier days when Rome was on her climb to the final epoch. Indeed, as Roland G. Usher once remarked, Rome had "fallen" 400 years before the happy Romans ever knew of the fall.

It would doubtless be the same in any coming age, if our own wars of decimation are at last ended, and Spengler's vision of a frozen sort of final Civilization were established in our world. Millions who even now hardly know the difference between a Titian and a Rembrandt would gladly trade our present for that future which Spengler foresees some two centuries hence. With an eye to that future, it is possible to say that *The Decline of the West* could as well be called *On Our Way to World Empire and Peace.*

In his original work, Spengler inserted three charts intended to visualize for the reader his concept of the Seasons or Ages in the life of a Culture. One is reproduced here —the chart in which he tries to show how, in the life of all Cultures, political and social events of the same kind tend to appear at the same point. Such events he calls "contemporaneous." They occur, that is, at the same time in the various Cultures.

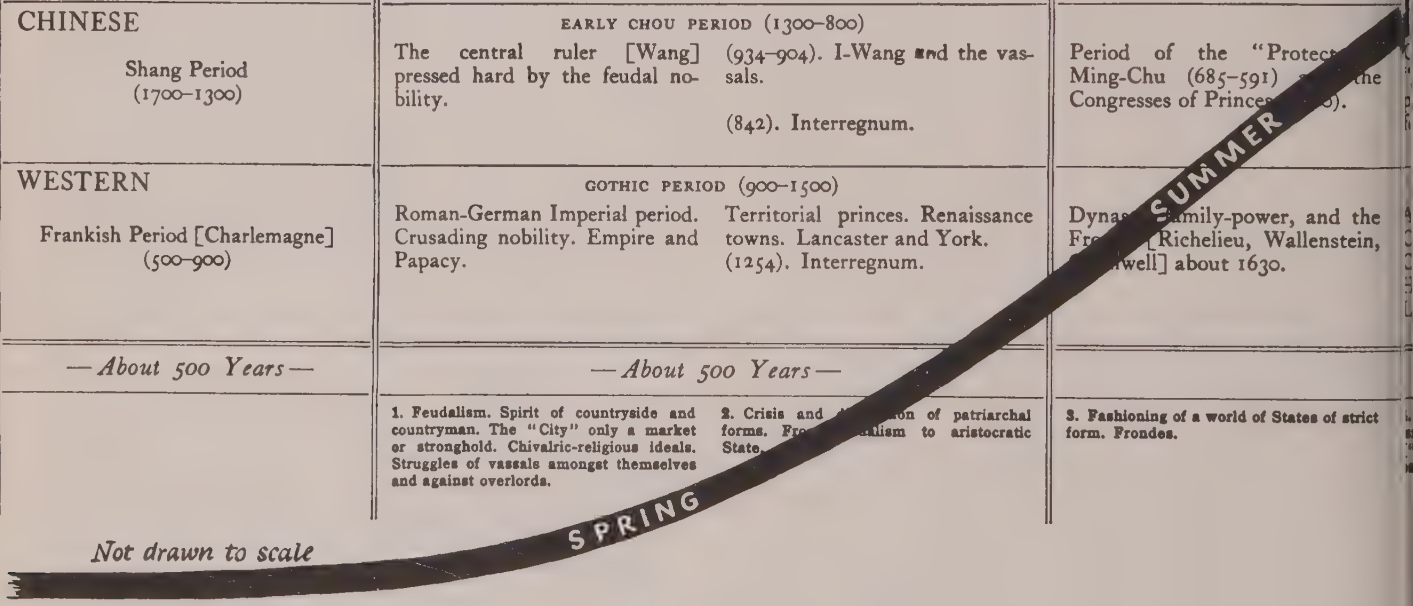
On the Spengler chart, which is in the form of a summary, showing the progress of Cultures as organisms, I have ventured to superimpose the sort of graph of growth which appears in the population studies of Dr. Pearl. It will be understood, of course, that this is only suggestive, and primarily intended to help the reader visualize one kind of information in terms at least related to facts of a more familiar kind.

Spengler dated this chart in round numbers of years—for the most part by centuries. Thus the era of "Caesarism" in our own Culture is indicated on his graph for the two Centuries 2000-2200 A.D. But Spengler, were he alive in 1940, would now perhaps recognize in Hitler the first of his Faustian Caesars, under whom he foresaw the world trembling, the money collapsing, and the blood streaming, as a prelude to the eventual birth of the Imperial Age and its Peace.

Edwin F. Dakin

HOW CULTURES GROW—"CONTEMPORA

Pre-Cultural Period: PRIMITIVE FOLK. . . . TRIBES AND THEIR CHIEFS. . . . AS YET NO "POLITICS" AND NO "STATE"	*Culture:* NATIONAL GROUPS OF DEFINITE STYLE AND PARTICULAR WORLD-FEELING. . . . "NA		
NAME OF CULTURE	I · EARLY PERIOD *Organic articulation of political existence. The two prime classes (noble and priest). Feudal economics — purely agrarian values*		*Actualizing of the ma* *Estate ("Bou*
EGYPTIAN Thinite Period [Menes] (3400–3000)	OLD KINGDOM (2900–2400) Feudal conditions of IVth Dynasty. Increasing power of feudatories and priesthoods. The Pharaoh as incarnation of Ra.	VIth Dynasty. Break-up of the Kingdom into heritable principalities. VIIth and VIIIth Dynasties, interregnum.	XIth Dynasty. Overthrow of the baronage by the rulers of Thebes. Centralized bureaucracy-state.
CLASSICAL Mycenean Age [Agamemnon] (1600–1100)	DORIC PERIOD (1100–650) The Homeric kingship. Rise of the nobility. [Ithaca, Etruria, Sparta].	Aristocratic synoecism. Dissolution of kinship into annual offices. Oligarchy.	Sixth Century. First Tyrannis. [Cleisthenes, Periander, Polycrates, the Tarquins]. The City-State.
CHINESE Shang Period (1700–1300)	EARLY CHOU PERIOD (1300–800) The central ruler [Wang] pressed hard by the feudal nobility.	(934–904). I-Wang and the vassals. (842). Interregnum.	Period of the "Protect Ming-Chu (685–591) the Congresses of Prince).
WESTERN Frankish Period [Charlemagne] (500–900)	GOTHIC PERIOD (900–1500) Roman-German Imperial period. Crusading nobility. Empire and Papacy.	Territorial princes. Renaissance towns. Lancaster and York. (1254). Interregnum.	Dynas amily-power, and the Fr [Richelieu, Wallenstein, well] about 1630.
—About 500 Years—	*—About 500 Years—*		
	1. Feudalism. Spirit of countryside and countryman. The "City" only a market or stronghold. Chivalric-religious ideals. Struggles of vassals amongst themselves and against overlords.	**2. Crisis and on of patriarchal forms. Fr alism to aristocratic State.**	**3. Fashioning of a world of States of strict form. Frondes.**



Not drawn to scale

CAL EPOCHS IN FOUR CULTURES

OUR PRESENT POSITION

WINTER

AUTUMN

		Civilization:		
OF AN IMMANENT STATE-IDEA		THE BODY OF THE PEOPLE, NOW ESSENTIALLY URBAN IN CONSTITUTION, DISSOLVES INTO FORMLESS MASS. . . . MEGALOPOLIS AND PROVINCES. . . . THE FOURTH ESTATE ("MASSES") — INORGANIC AND COSMOPOLITAN		
D *countryside. Rise of Third* *ver landed property*				
00) 88). wer.	(1788–1680). R[illegible] and military [illegible]. Decay of the [illegible] small potentates, in some [illegible] sprung from the people.	(1680 [1788]–1580). Hyksos period. Deepest decline. Dictatures of alien generals [Chian]. After 1600, definitive victory of the rulers of Thebes.	(1580–1350). XVIIIth Dynasty. Thuthmosis III.	(1350–1205). XIXth Dynasty. Sethos I. Rameses II.
n of Rise cles,	Fourth Century. Social revolution and Second Tyrannis [Dionysius I, Jason of Pherae, Appius Claudius the Censor]. *Alexander.*	(300–100). Political Hellenism. From Alexander to Hannibal and Scipio royal all-power; from Cleomenes III and C. Flaminius (220) to C. Marius — radical demagogues.	(100–0–100). Sulla to Domitian. Cæsar, Tiberius.	(100–300). Trajan to Aurelian. Trajan, Septimius Severus.
00) and even ocial	(480). Beginning of the Chan-Kwo period. (441). Fall of the Chou dynasty. Revolutions and annihilation-wars.	(480–230). Period of the "Contending States." (288). The Imperial title. The imperialist statesmen of Tsin. (From 289). Incorporation of the last states in the Empire.	(250–0–26). House of Wang-Cheng and Western Han Dynasty. (221). Augustus-title [Shi] of Emperor Hwang-Ti. (140–80). Wu-ti.	(25–220 A.D.). Eastern Han Dynasty. (58–71). Ming-ti.
00) illes. reat.	End of Eighteenth Century. Revolution in America and France [Washington; Fox, Mirabeau, Robespierre]. *Napoleon.*	(1800–2000). Napoleon to the World-War. "System of Great Powers," standing armies, constitutions. Twentieth-century transition from constitutional to informal sway of individuals. Annihilation-wars. Imperialism.	(2000–2200).	(After 2200).
—		*— 200 Years —*	*— 200 Years —*	*— ??? —*
solut- ountry three	**5. Break-up of the State-form. Revolution and Napoleonism. Victory of the city over the countryside, of the "people" over the privileged, of the intelligentsia over tradition, of money over policy.**	**1. Domination of Money—"Democracy." Economic powers permeating the political forms and authorities.**	**2. Formation of Cæsarism. Victory of force-politics over money. Increasing primitiveness of political forms. Inward decline of the nations into a formless population, and constitution thereof as an Imperium of gradually-increasing crudity of despotism.**	**3. Maturing of the final form. Private and family policies of individual leaders. The world as spoil. Enfeeblement of the imperial machinery, against young peoples eager for spoil, or alien conquerors. Primitive human conditions slowly thrust up into the highly-civilized mode of living.**

The Cycle Workshop

More About Getting Hints of Cycles

In previous issues I have given you four simple ways to get hints of cycles. These ways are inspection, pencils, thumbing, and counting. This article will discuss a fifth way—the graduated scale, and a sixth way, the time chart.

The Graduated Scale

The graduated scale is merely a slip of paper with little marks on the edge spaced equally at whatever length you wish, in scale to suit your chart paper.

For example, if other methods suggest a nine-year cycle, you put your marks at what would be nine years apart on your chart paper. You then lay your graduated scale against your chart—first against the highs, then against the lows—to see how well the turning points conform to the perfectly regular intervals of your graduated scale. See Figure 1 below.

You may find, as in Figure 1, that the correspondence is fairly good.

On the other hand you may find that the turning points progressively outrun the nicks on your graduated scale. In this event make a new and slightly longer graduated scale—say a 9.1-year or a 9.2-year scale. Similarly if your turning points run closer you would make and try a shorter scale.

Instead of looking for turning points it is often better to look for areas of high (as in Fig. 2 below) and areas of low.

It is a good plan to keep a stock of graduated scales on hand so that you can try one after another easily.

When you make a graduated scale, test the total length of the scale as a check. For example, if you mark off nine years on your scale and then another nine years and so on, you may be out as much as two or three years by the time you have made a dozen marks. Check

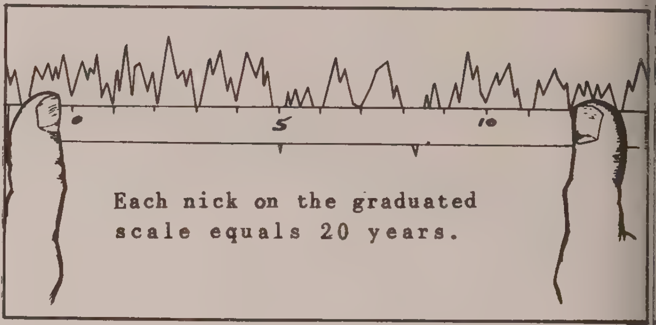

0
5
10
Each nick on the graduated scale equals 20 years.

Fig. 2: This 20-Year Scale Shows Areas of High that Hint of A Possible 20-Year Cycle

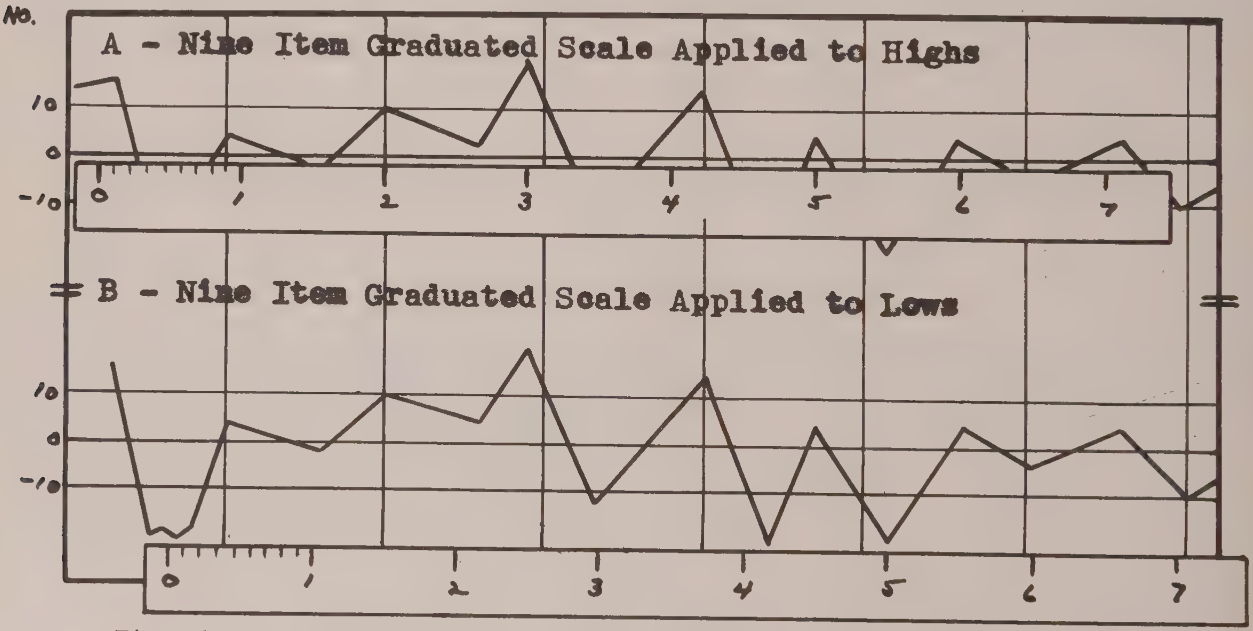


Fig. 1: A Graduated Scale Used to Find Hints of Cycle Length

to see if the total space from one end of your graduated scale to the other is 108 (9 x 12) years long (if you have a dozen nicks).

It helps to number the nicks.

A graduated scale will refine and support (or negate) the preliminary findings of the four other methods. It is quick and easy to use, especially if you have a supply of scales on hand. However, a sixth means of getting hints of cycles, the time chart, is by far the best of all six methods.

The Time Chart

A time chart is merely a grid upon which the successive highs (and lows) of a rhythmic cycle may be plotted to show the length of the cycle, and its variability.

For illustration, let us make a 12-month time chart of the temperature highs at San Francisco for the period January 1931, through December 1940. These highs fell as follows: in 1931 and 1932 in September; in 1933 in October; in 1934 in September; in 1935 in June; in 1936 in September; in 1937 and 1938 in October; in 1939 and 1940 in September. The time chart is shown as Fig. 1.

Each column of the time chart represents time. In a 12-month time chart each column represents time that is 12 months later than the time represented by the column before.

To make the time chart of San Francisco temperature highs you place a heavy horizontal line in the 1931 column of the grid at September, because as stated above, September was the high for that year. You do the same for September 1932. In 1933 column you place your heavy horizontal line at October. You proceed this way for all your high points. To help the eye we now connect these horizontal lines by vertical lines. Your time chart is now completed. See Figure 3.

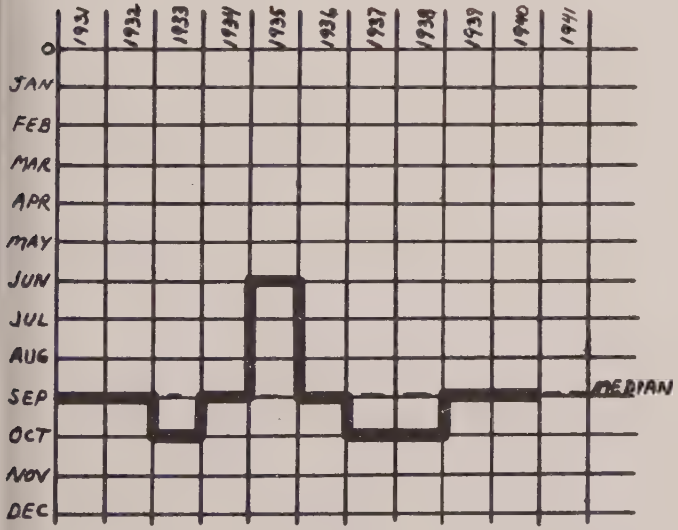


Fig. 3: A 12-Month Time Chart of Temperature Highs at San Francisco

It is obvious that, if the cycle is 12 months long, the bars will tend to oscillate above and below a horizontal line at median position. Figure 3 shows a simplified version of the time chart. Just the highs are noted—the usual time chart shows both the highs and lows. Also, Figure 3 divides the data into even years of 12 months each. The months can be named going down the left side of the chart.

If, however, you had a hint of a 23-month cycle (from your previous inspection of the chart of your series) you would have to number the months so that the base column could be set up. For this situation, a standard series of month numbers has been devised, with December 1900 month no. zero. December 1901 is thus month number 12. December 1930 is month number 360 (30 times 12). If you are using yearly data, there is no problem as the years themselves are numbered. But if you are using daily, weekly, or monthly data, you have to number the time intervals to simplify the work.

Figure 3 can be set up using the month numbers instead of the month names. At the upper left hand corner we have the zero line at the top of the column. The zero month is the month before January 1931. That is, the zero month is December 1930, which is month number 360. Month number 360 is thus the heading of the first column instead of the year 1931. The heading of the second column is 12 months later, or month number 372, and so on across the top.

Going down the left hand scale of the chart, January becomes month number 1, or, 1 month after the base month 360. February is 2, or, 2 months after the base month of 360. December is 12 months after. You will note that 12 months after base 360 is 372, the same as the base number at the heading of the second column. On a time chart, the bottom of each column is always the same as the zero, or base line at the top of the next column. You might try putting the values on Figure 3 onto a grid with the month numbers, and also you could try putting the same data onto a 13-month chart, or an 11-month chart. Next month, when I continue the discussion of time charts, I will show these additional charts of the highs in San Francisco temperatures. E.R.D.

LETTERS:

The Geisinger Indicator

Dear Sirs:

Would you kindly send me any literature you may have explaining the Indicators?

Toronto, Canada E. A. Alton

Comment: I do not have any prepared literature explaining the Indicators—so I will try to do a quickie capsule job of explanation here.

First of all, the Indicators are designed to help forecast production. Specifically, the Federal Reserve Board Index of Industrial Production. This Index measures the physical volume of goods (tons, yards, gallons, etc.) produced in the U.S.A. The Indicators are not designed to help with stock market analysis, except as the market level is related to production. But that would be a secondary indirect application, and would be beyond the scope of the Indicators.

The Production Index itself is shown as Curve D. That is, the Production Index is shown after smoothing by a three-month average plotted at the middle month. (This smooths out individual monthly wiggles). On the chart the latest actual individual monthly Index is shown by a dot.

All the other curves are to be related to Curve D. All the curves are on pages 274--275.

Curve A—the Geisinger Indicator—tends to go up and down ahead of Curve D. The construction of Curve A is confidential, but I can assure you it is logical. Curve A "leads" the production curve, but it has an additional asset. Each time over the record we have (which is all that can be developed) that the Geisinger Indicator has cut +2.00 going up, very high production has followed. And each time the Geisinger Indicator has cut -2.00 going down, very low production has followed. This fact is the most important one to remember.

Curve B—the First Difference Indicator—is based on the Production Index. There is nothing confidential about it. Basically, it is a rate-of-change chart and employs a simple principle. In any continuous time series, the *rate* of increase usually slows down *before* the actual curve turns down. That is, the increases from month to month become smaller and smaller before they stop.

Curve B is computed this way. A three-month moving average of the Production Index is computed. A two-month moving average of the three-month moving average is computed next. The latest month of the two-month average is compared to the previous month. If the latest month is up, the difference is plus. If the latest month is down, the difference is minus. Curve C is simply the result of the addition of Curve A—the Geisinger Indicator—to Curve B—the First Difference Indicator.

Curve E repeats Curve C exactly, except that it is advanced by 8 months before plotting. That is, the value for any January on Curve C is plotted at September on Curve E.

The reason for combining Curves A and B to get a Modified Geisinger Indicator is that the *general contour* of the resulting Curve C is somewhat similar to the Production curve. *G.S.*

Basic Research

Dear Mr. Dewey:

Heeding your July request for suggestions I'd like to suggest the following subjects for study as to their cyclical nature.

1. Six-month variation in stock prices because of tax effects.
2. Cyclic nature of space background radiation count at ground level.
3. Periodicity of mailing volume of literature by investment advisory services which seem to fluctuate with the rise and fall of the market.
4. Rhythms of portions of spectrum of sunlight such as infra-red and ultra-violet.
5. Noise level fluctuations in a large city—perhaps semi-diurnally.
6. Vibration of the Empire State Building, maximum and minimum variation
7. Smog variation levels.
8. Whiskey sales.

9. Maple syrup and cheese production.
0. Monthly traffic violations in a large city.
1. Labor union membership.

Boise, Idaho — R. R. Haffermann

Comment: Thank you for the suggestions. There are some interesting ideas here. *G.S.*

* * *

Dear Mr. Dewey:

With your electronic computer, it might be of great interest to determine the following:

Taking any historical series of which you have the following components:

a) The historical record of *monetary* activity, such as the dollar volume of building.
b) The historical record of *physical* activity, such as the number of building permits.
c) Successive divisions of (a) by (b), giving *price* activity.

Make the following analysis:

1) Break up the *price* activity (c) into its cyclical components and then project them into the future.
2) Break up the *monetary* activity (a) into its components and project them.
3) Break up the *physical* activity (b) into its components and project them.
4) Divide the future projections of (2) by the future projections of (3), and compare the result with the future projections of (1).

Walnut Creek, Calif. — Adolph Morbio

Comment: Yes, that's a very well thought out suggestion. Our computer program is developing along other lines, but that does not mean that we will not follow your idea as our work progresses. *E.R.D.*

The Stock Market

Dear *Cycles:*

Your study of Fedders Corporation common stock is a little nearer being comprehensible to the novice subscriber than most. What puzzles me is, how do you know the average? The data by which to figure it is in the books of the floor specialist dealing in the stock, but is that published?

Incidentally, the Director's Letter in the August issue should have wider publicity. Its treatment shows trees in place of vast forests.

Tyron, North Carolina — H. H. Muir

Comment: When we figure the average price for the week we do not use the record of all the sales. As you point out, this would be a little difficult to obtain. What we do is simple. We just average the high and low price for the week.

Of course, if more sales were on the low side, than an average of all the sales would be a lower figure than the one we get. However the procedure we use to get an average price is fairly common practice. Another method that is also used is to average the five closing prices. But this way would take more time. To save time some analysts reduce the work to one figure by using the same day's close for the weekly figure. For example, just the close for Tuesday.

If you wanted to be fancy, and if the data were available you could weight the price by the amount of each sale. It is possible to get involved in routines that sharpen the work some, but not to the degree that justifies the extra time. Thank you for the kind words. *G.S.*

* * *

Dear *Cycles:*

The market is in the very corner of Bedlam. The people who say that the Industrial average will never (!) again go under 709 are fighting the people who say that the Industrial average looks like early September 1929.

About the talk of the government manipulating a correction in the market, but not in 1962 because its an election year: If the administration can manipulate public fear so that the Industrials do go below 709 with vim and vigor, we may well have something like 1929. When politicians break the market it is like arguing with the Mississippi in flood stage. If, as, and when they break it and the debacle has hit bottom, the great sums of money they seem to be readying without reason could be used to make the U. S. a socialist state, or to try to inflate it out of the depths. But unless the public believes in being inflated out of the depths, no amount of money will do any good.

The data is so controversial that one does not know what to believe. Industrials rose too fast the last two weeks. (August 17.) If it drops on volume to 706—709 and holds and short odd lot sales rise, and Rails rise, that will be a good signal. But if the Industrials go down through 706—709 on increasing volume and the odd lot buyers buy heavily, I shall sit tight because no one will know where the bottom is.

Joliet, Illinois — *R.F.T.*

Time and time again. . . .

BY GUSTAV GUMPERT

THE MAGICAL SEVENS

Dr. H. A. Reimann, a physician, in a paper entitled "Periodic Disease," conjectures that the rhythms of human life may be controlled by the solar cycle of 6.6 days.

This may be pertinent, he points out, in view of the folklore and religious significance of the number seven. Here are some of the "big" sevens:

Seven Seas
Seventh Heaven
Seven ages of man
Seven deadly sins
Seven joys of Mary
Seven hills of Rome
Seven days of creation
Seventh Year—sabbatical
Seven Wonders of the World
Seventh son of a seventh son

TIME WORSHIPPERS

A new archeological find from the civilization of the ancient Mayas—a four-and-a-half foot-high stone tablet—suggests that this highly civilized people actually worshipped time.

The hieroglyphics on the stone may offer new insight into the meaning of Mayan writing. In the meantime, however, enough is known about this writing to deduce the fact that the Mayans had a strong belief in cycles.

So strong was this belief, in fact, that the Mayans worshipped time in the form of gods. Each day was a living god who carried a burden on his back and passed it on to the next god. The relay order of the divine bearers determined what good or bad events would occur.

These hieroglyphs were also linked with the varying positions of sun, moon, and planets in the heavens. Since the sequence of the calendar gods repeated itself in cycles, the Maya believed history repeated itself. They tried to prophesy the future by calendar calculations of the past.

Sound familiar?

TIME FOR REAL ESTATE

Pundits in the real estate field are now betting that the trend is up.

Beginning this June, for the first time since September of 1960, real estate activity didn't decrease from the previous month. In fact, the average number of voluntary real estate transfers per 10,000 families in the major cities of the United States increased slightly from 67.9 in April to 68.4 in May.

FHA applications for insurance and VA appraisal requests are thought to be good indicators of changes in housing starts. While the 12-month moving total of one- and two-family private housing starts hasn't turned up yet, the moving total of FHA applications and VA appraisal requests has. Specialists say this heralds an up-turn soon.

THEY BEAT THE HEAT!

According to Hoff's law, as the temperature rises the rate of any chemical process speeds up.

But it appears that heat doesn't affect the cycles of some creatures. Fiddler crabs, for instance, don't change their basic cycles when temperature is raised or lowered. And some seeds, although stored in a dried state under constant conditions, have been found to have an accurate annual rhythm whether stored at 8 degrees below or 130 degrees above zero Fahrenheit.

the october CYCLES round-up

n this month's Round-Up we review the current status of the eight leading indicators." These series *tend* to turn ahead of business in eneral. This characteristic is just a tendency, and does *not* mean hat they *all* turn ahead of general business in *every* instance. But t does mean that if they are all looking good, the outlook is bright. e do not as yet have cycle studies of all the series, but charts for he full list are presented.

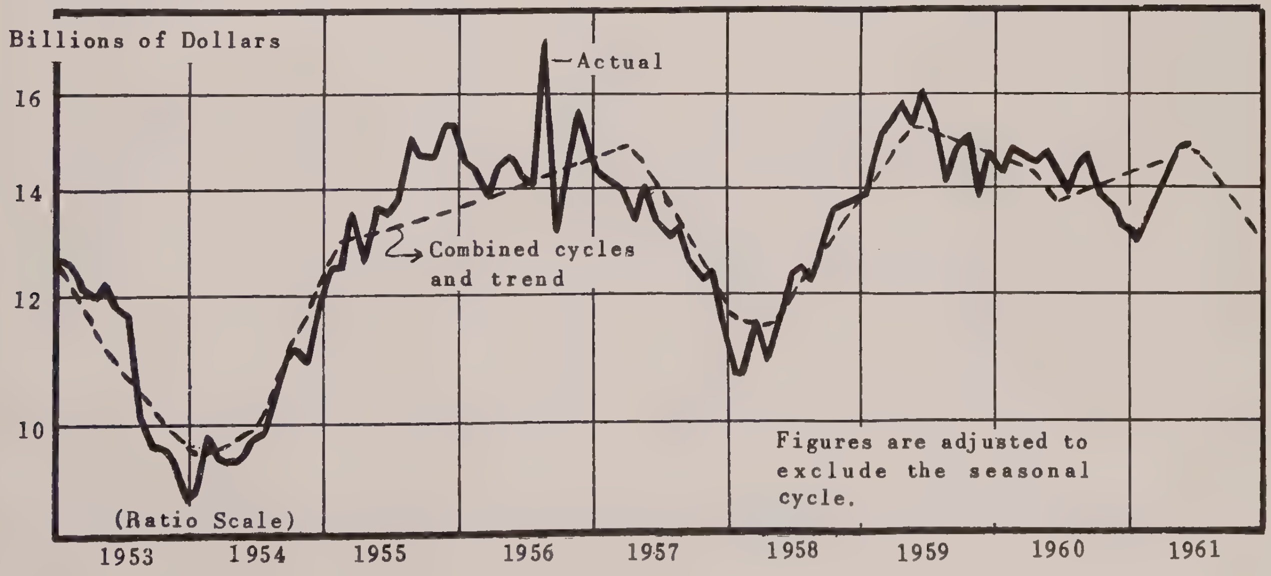
YCLES IN THE "LEADING INDICATORS"

The sum of our ratings of the eight Leading ndicators at August 23 is higher than it was ast month. In this review we are showing the harts of all the Indicators with the latest lots added. As we have discussed before, we ecide whether the current status of each In-icator is good, neutral, or poor. Good is lus 1, neutral is zero, and poor is minus 1. t July 26, the total of all eight was plus 3. t August 23, the total of all eight was plus . (The highest rating you could get would be lus 8.) These ratings are matters of opinion. he opinion is not about what *might* happen o the series. It is about the current, as-of-he-moment, August 23 status.

New Orders for Durable Goods	good
Wholesale Prices - 22 Commodities	neutral
Number of New Incorporations	good
Liabilities of Failures	good
Residential Building Contracts	good
Nonresidential Building Contracts	good
Hours Worked in Manufacturing	good
Stock Prices	good

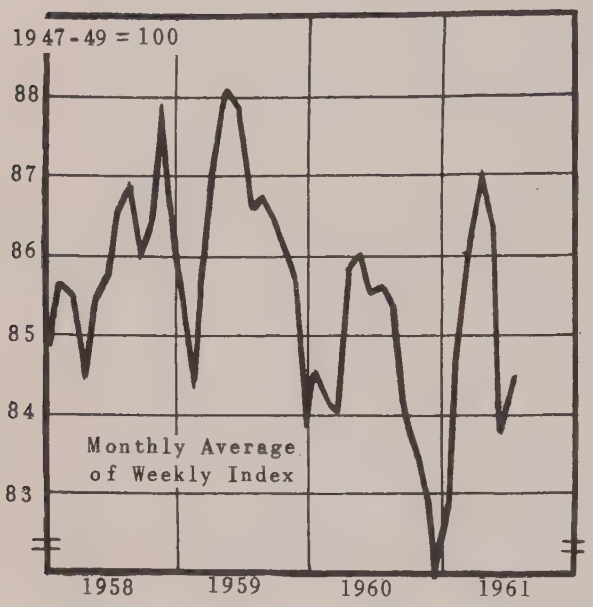
You may disagree with any or all of the conclusions about how each Indicator stands. More power to you! You may, for instance, decide that the Wholesale Price Index should be rated poor instead of neutral. This would reduce the sum to plus 6. *E.R.D.*

MANUFACTURERS' NEW ORDERS FOR DURABLE GOODS

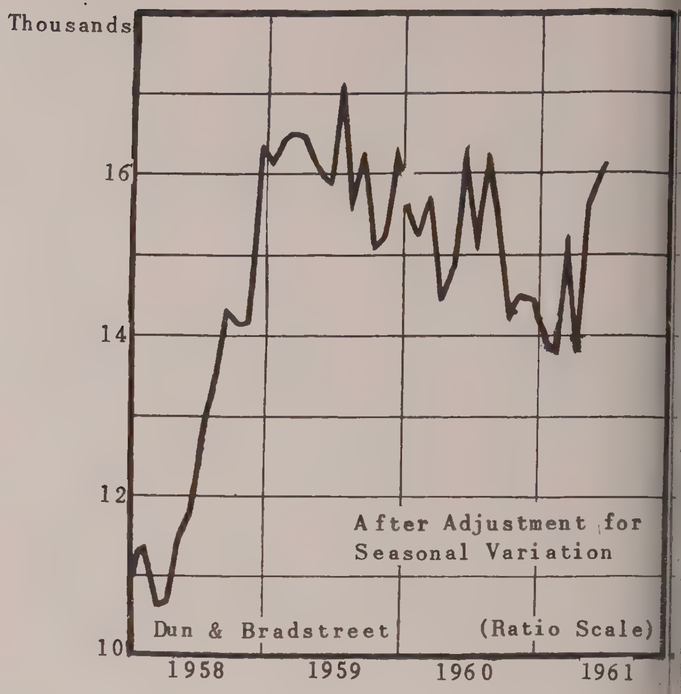


Figures are adjusted to exclude the seasonal cycle.

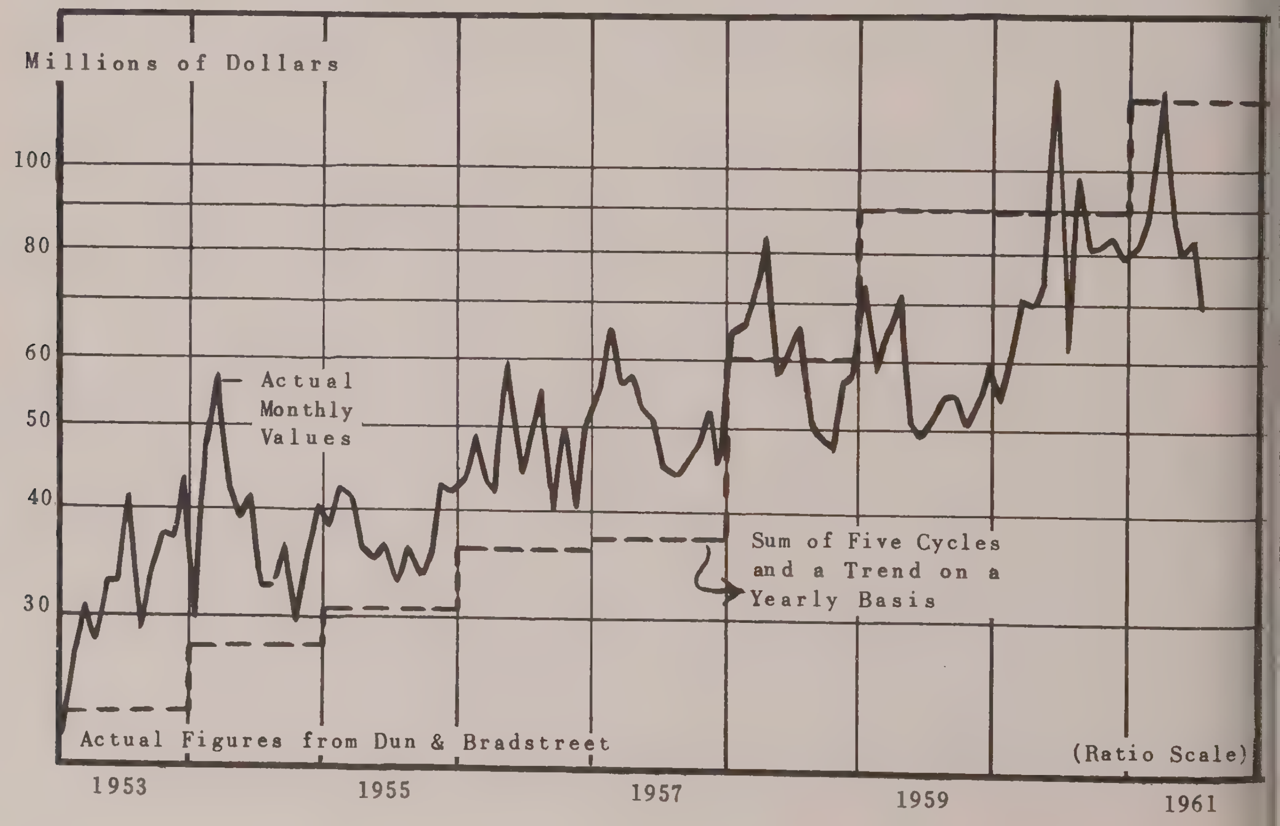
THE B.L.S. PRICE INDEX OF 22 COMMODITIES



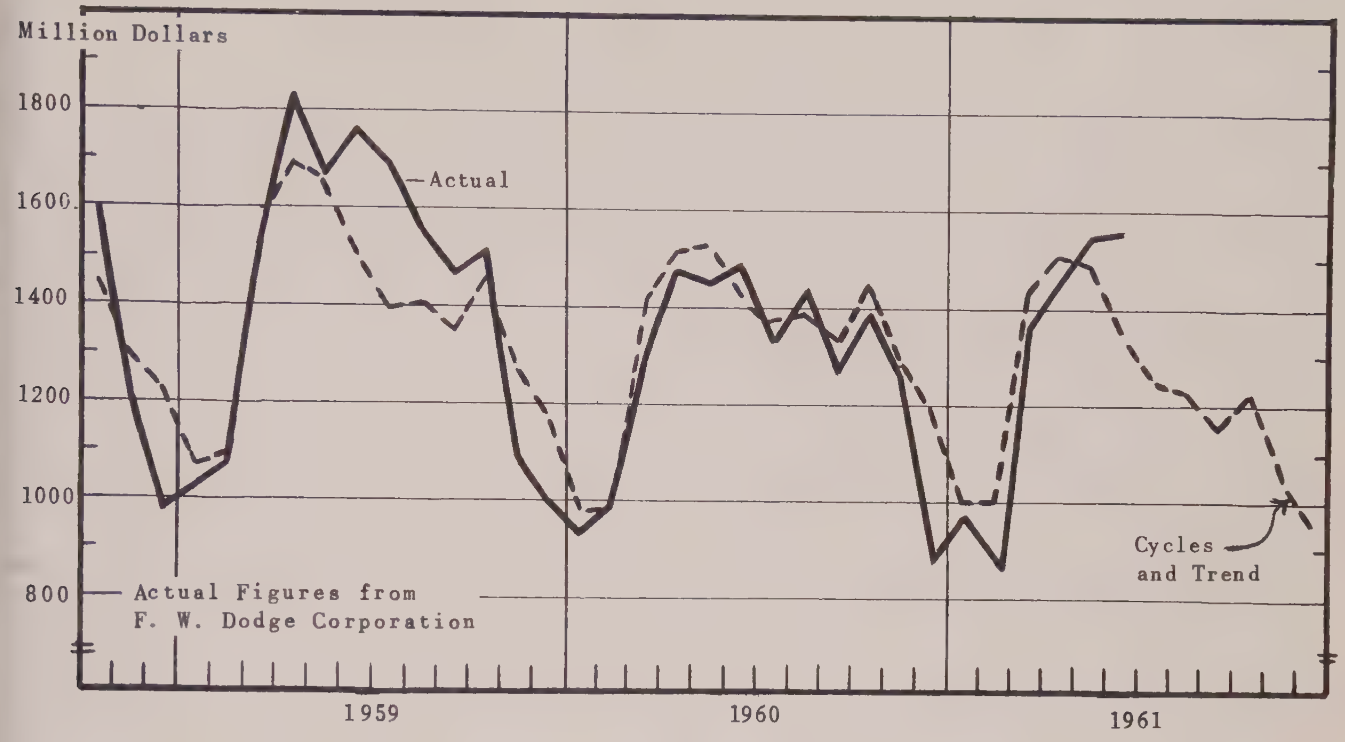
NUMBER OF NEW INCORPORATIONS



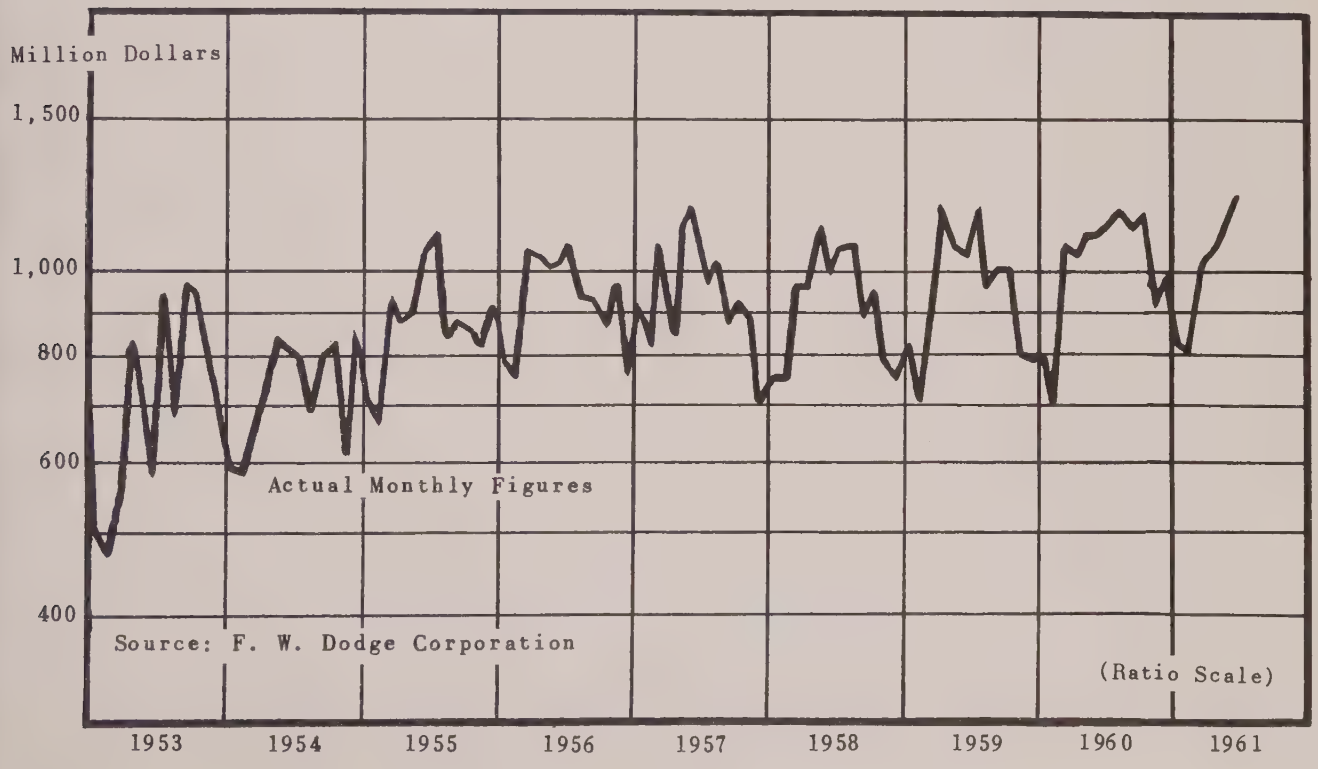
LIABILITIES OF COMMERCIAL AND INDUSTRIAL FAILURES



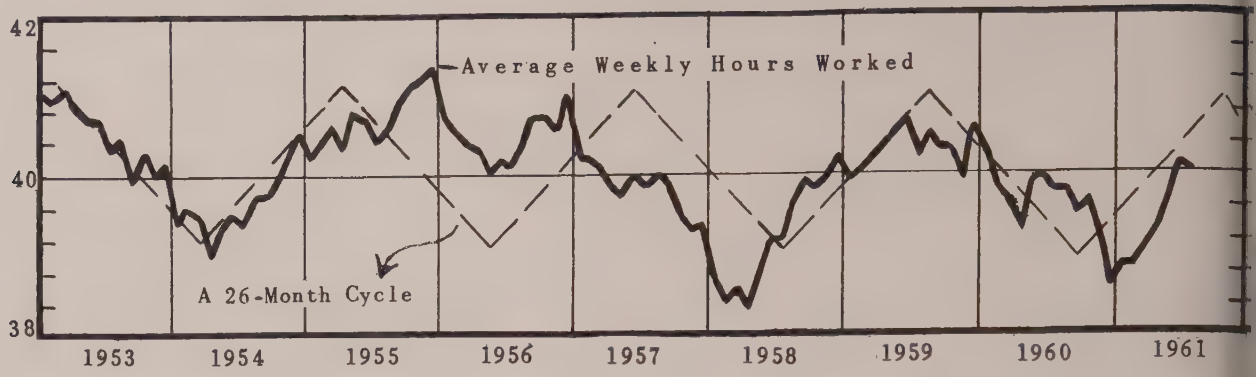
ESIDENTIAL CONSTRUCTION CONTRACTS



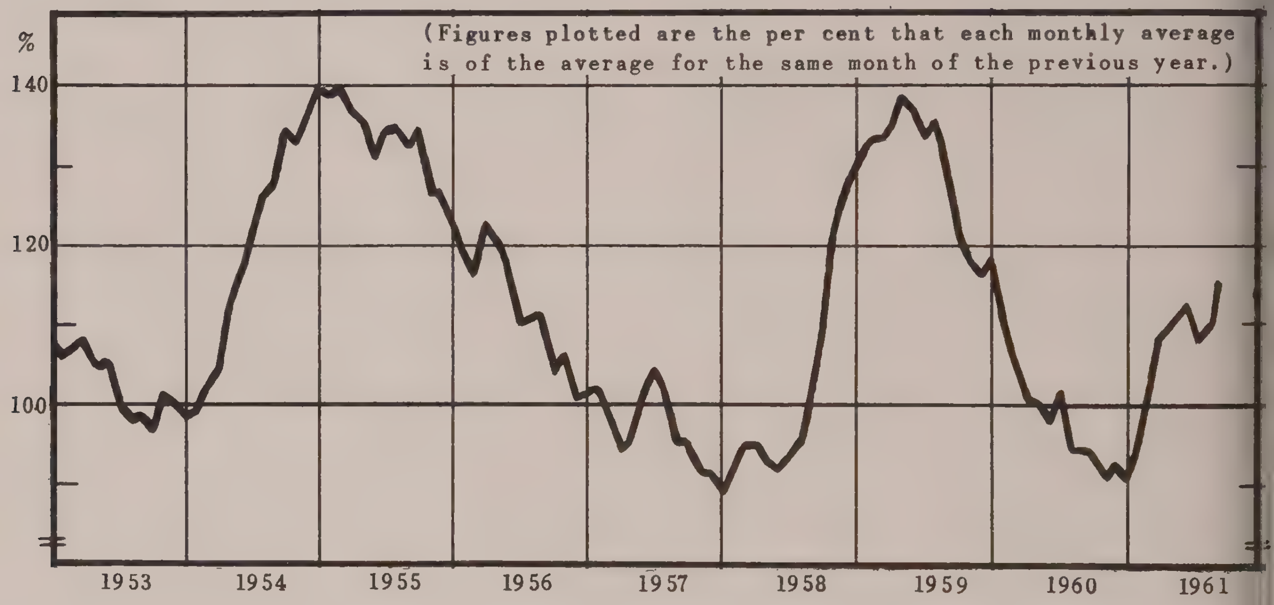
NONRESIDENTIAL CONSTRUCTION CONTRACTS



AVERAGE WEEKLY HOURS WORKED IN MANUFACTURING



DOW JONES INDUSTRIALS: THE ONE-YEAR PER CENT CURVE



* * *

HE GEISINGER INDICATOR

he Indicator goes up again:

The Federal Reserve Board's Index of In-ustrial Production went up again in July. fter adjustment for any seasonal variation, e 1957 = 100 Index was 112.4 on a prelimi-ary basis. This July figure represents a gain production of 10% above the February low.

The Geisinger Indicator continued up to .60 for April (December when advanced). This .60 value for April includes various July igures which became available today. Because f the method of handling, however, the most ecent result which can be posted is for March.

The First Difference Indicator went up to .44 for June.

The Modified Geisinger Indicator, which is the sum of the Geisinger Indicator and the First Difference Indicator, also went up in April. The April value was 5.19.

The Geisinger Indicator has risen steadily from the low of -3.20 at last December. Last month it cut 2.00 on the way up, giving us a "good times ahead" signal. This month's rise reinforces the good times signal.

August 23, 1961 E. R. Dewey

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he recent figures:

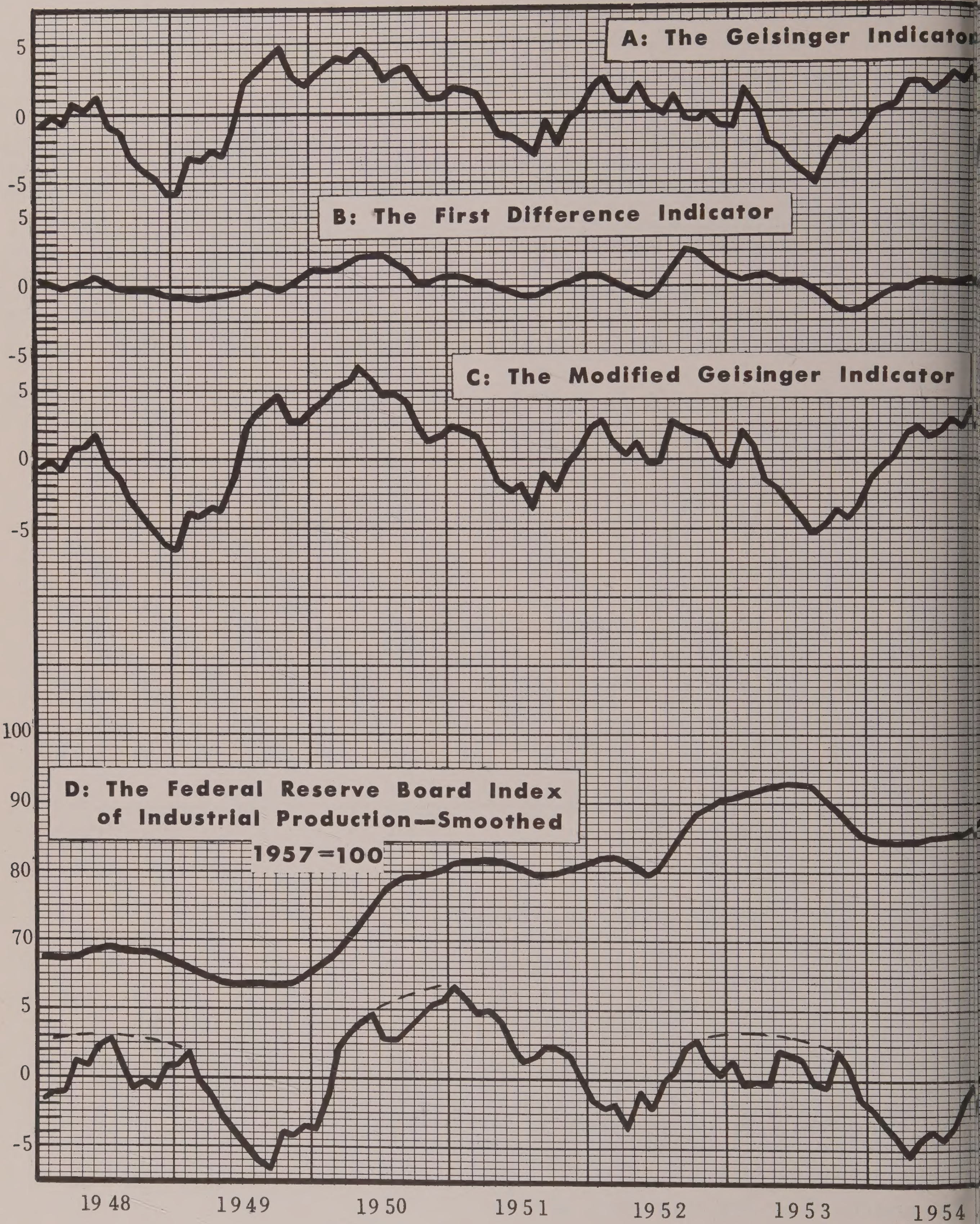
Month	F.R.B. Index §	Geisinger Indicator	First Difference Indicator	Modified Geisinger Indicator	Timing Advanced 8 Months
Oct-1960	106.3	-2.40	-1.16	-3.56	1961-Jun
Nov	104.6	-2.60	-1.27	-3.87	Jul
Dec	103.0	-3.20	-1.30	-4.50	Aug
Jan-1961	102.3	-2.20	-1.08	-3.28	Sep
Feb	102.1	0.40	-0.49	-0.09	Oct
Mar	102.6	2.60	0.48r	3.08r	Nov
Apr	105.6r	3.60	1.59r	5.19	Dec
May	108.3	*	2.33r	*	1962-Jan
Jun	110.4r	*	2.44p	*	Feb
Jul	112.4p	*	*	*	Mar

§ - 1957=100, adjusted for seasonal variation
p - preliminary
r - revised
* - not yet available

For $5 a year extra members can get the Geisinger Indicator text and figures by first-class mail immediately after it is written. This service saves you the two weeks that it takes to print and mail Cycles, plus the two weeks it takes the Post Office to deliver it.

The chart: See the next two pages

The Geisinger Indicator Compared To Indus



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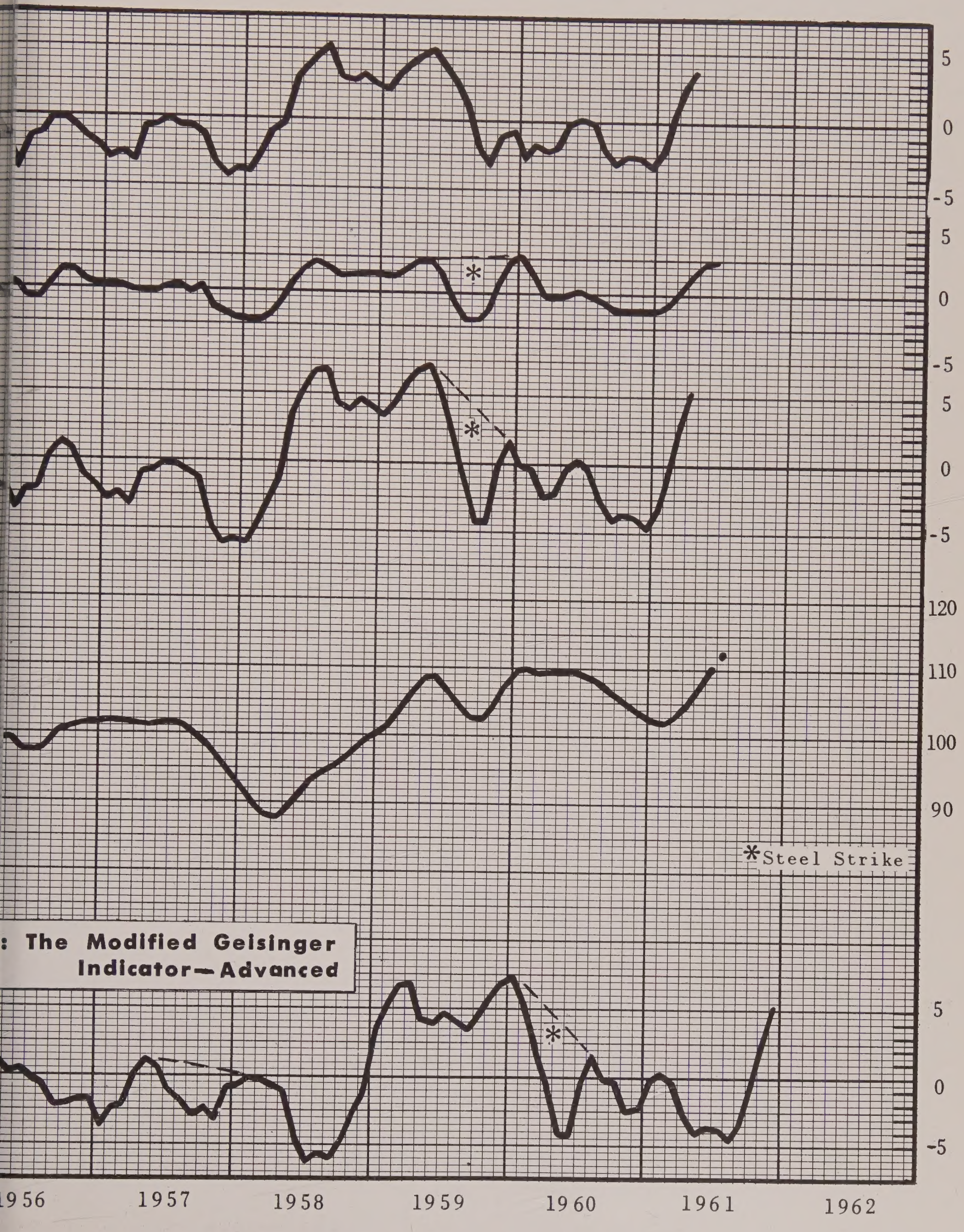

: The Modified Geisinger Indicator—Advanced

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Rhythmic Process in Plants and Animals
Rhythmic Events in Human Physiologic Processes
The Law of Initial Value
Rhythms in Clinical Medicine, Psychiatry, and Psychology